

# Cybercrime In The Deep Web



Marco Balduzzi, Vincenzo Ciancaglini  
HITB GSEC SG  
15th Oct '15

# About us

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## Dr. Marco BALDUZZI

- MSc in Computer Engineering
- Ph.D. in System Security with ~15 peer-reviewed papers
- 13+ years experience in IT Security -- Consultant, engineer and researcher
- Turned my hobby into my profession
- Sr. Research Scientist for Trend Micro
- Bridge scientific research and industry needs  
Veteran speaker in major conferences with 50+ talks

## Dr. Vincenzo CIANCAGLINI

- M.Sc. in Telecommunication Engineering
- Ph.D. in Computer Networking, Peer to peer networks and next generations protocols
- 10+ years experience in R&D
- Sr. Research Scientist for Trend Micro
- Development of novel proof of concepts and complex systems



**TREND**  
**MICRO**<sup>TM</sup>

# Roadmap

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## ◎ Introduction

## ◎ Deep Web Analyzer (DeWA)

- Data collection
- Data enrichment
- Storage and indexing

## ◎ Illegal Trading

## ◎ Data Analysis

## ◎ Malware

## ◎ Conclusions

④ **Deep Web:** *Internet not indexed by traditional search engines.*

④ **Dark Net:** *Private overlay network.*

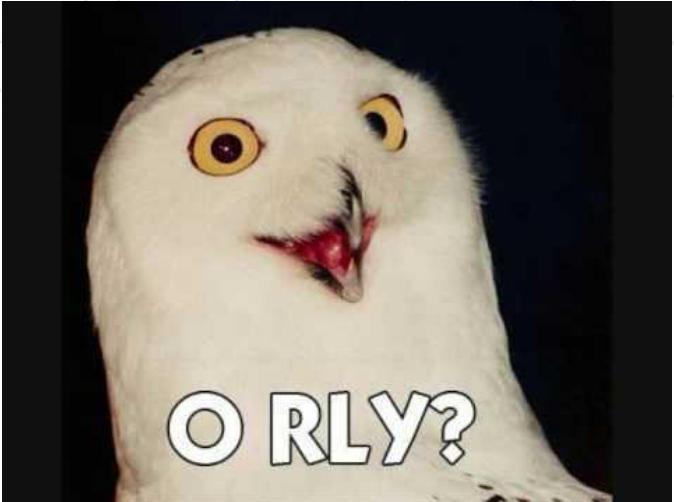
④ **Dark Web:** *WWW hosted on Dark Nets.*





*The Deep Web is vast. Thousands  
of times larger than the surface  
web.*

*Alex Winter, Deep Web Documentary, 2015*



*The Deep Web is vast. Thousands  
of times larger than the surface  
web.*

*Alex Winter, Deep Web Documentary, 2015*

# Our research focus

- Infrastructure resilient to LE takedowns
- Marketplaces for cybercrime goods
- Safe haven for information exchange and coordination



## Cesidian Root

Cyberterra Mean Time  
Saturday 22 Kurosawa 2015 @ 535



## Rogue TLDs

- Cesidian Root
- OpenNIC
- NewNations
- ...

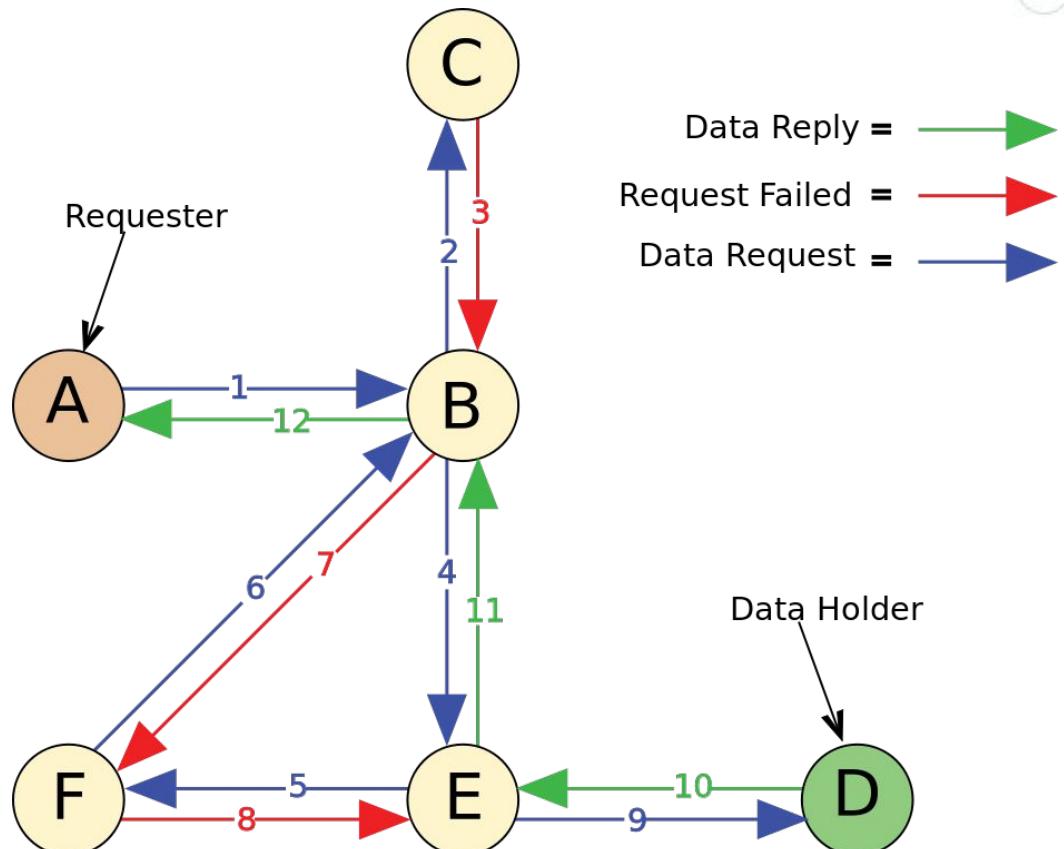
## Custom DNS

- Namecoin
- Emercoin



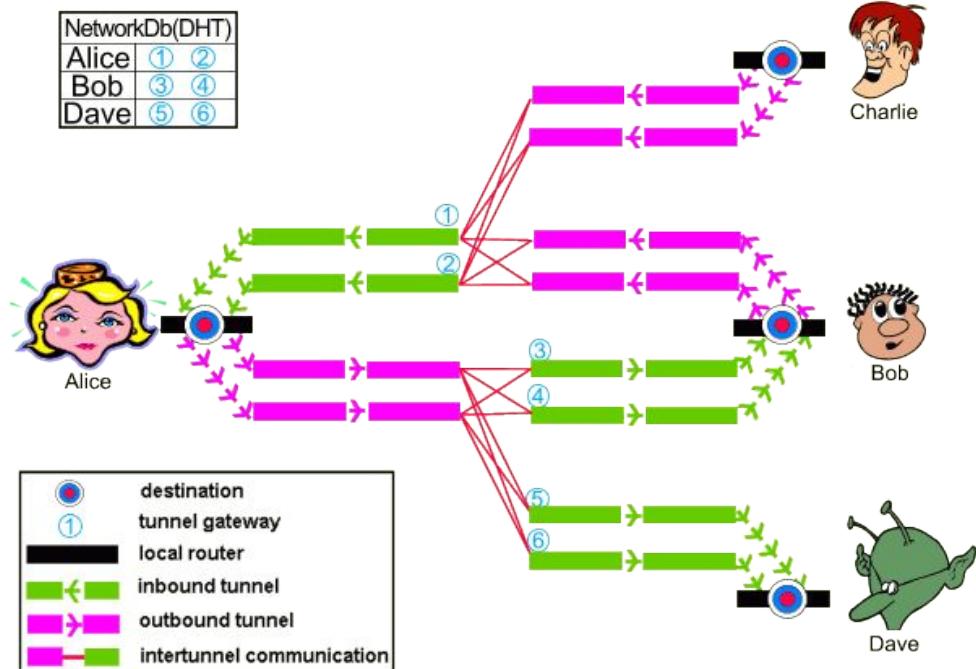
# Freenet

- Oldest one: summer of 1999 (father of I2P)
- Content distribution and discovery, no service hosting
- Gossip protocol to lookup a resource (i.e. web page)



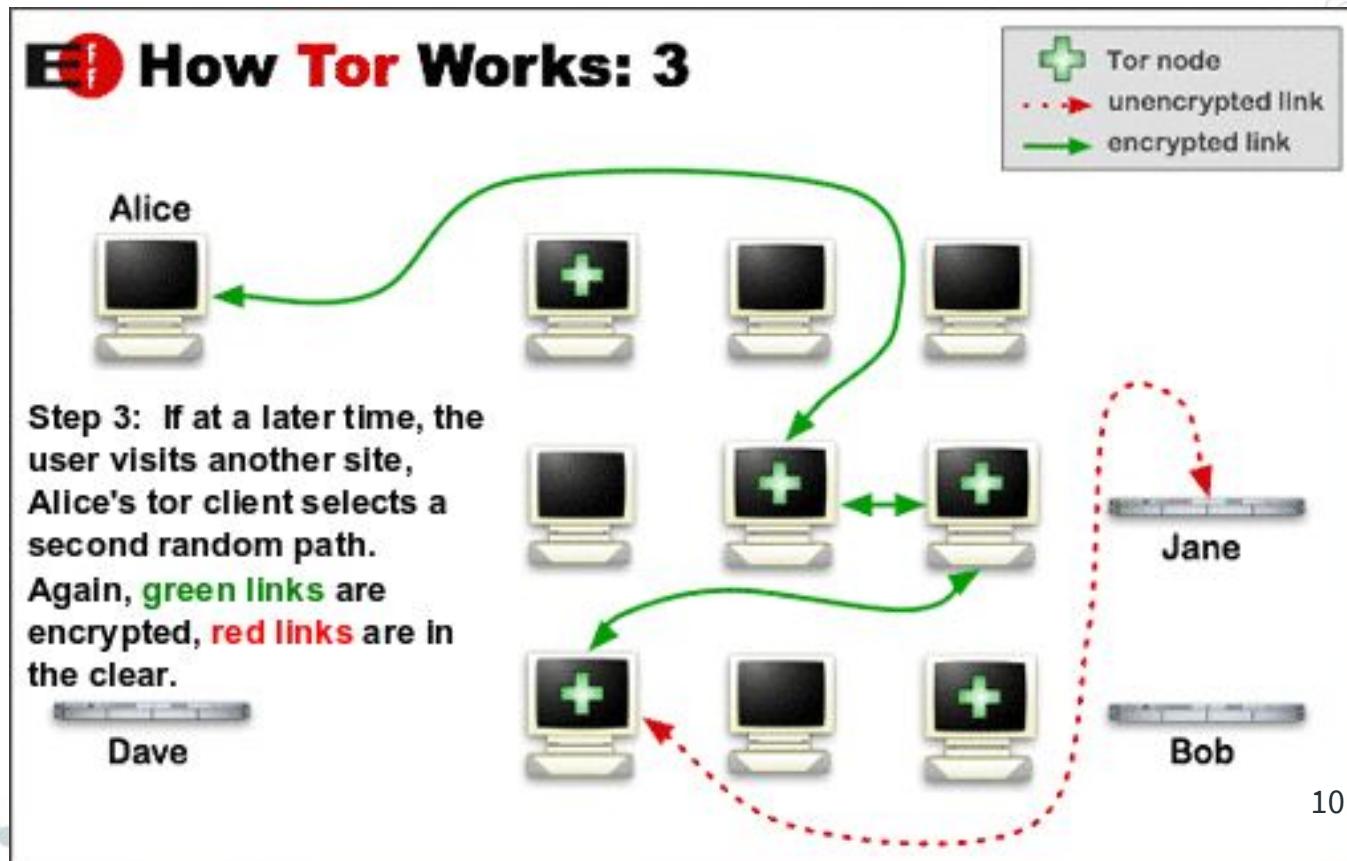
# I2P

- First beta in 2003
- Full Dark Net, no anonymous browsing to the Surface Web
- Garlic routing: multiple encrypted tunnels, multiple layers of encryption (transport, tunnel, path)



# TOR

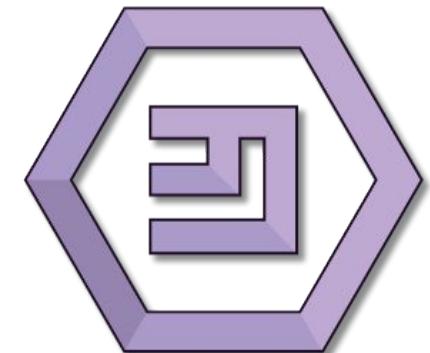
- First alpha in 2002
- Initially used to browse anonymously the Surface Web
- Hidden services -> effective Dark Web
- Onion routing: multihop routing with host key encryption.



# Namecoins, Emercoins

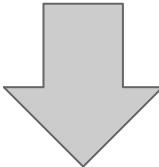
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- Blockchain-based domain name server
  - Think bitcoins, but instead of payment transactions, DNS register transaction
- 
- Distributed
  - Decentralised
  - No regulating institution

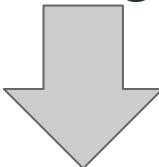


# rogueTLDs & privateDNSeS

Plain old DNS, but with custom servers



Custom registrars



Custom domains

## Cesidian Root

**Cyberterra Mean Time**  
Saturday 22 Kurosawa 2015 @ 535



# Roadmap

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○ Introduction

## ○ **Deep Web Analyzer (DeWA)**

- Data collection
- Data enrichment
- Storage and indexing

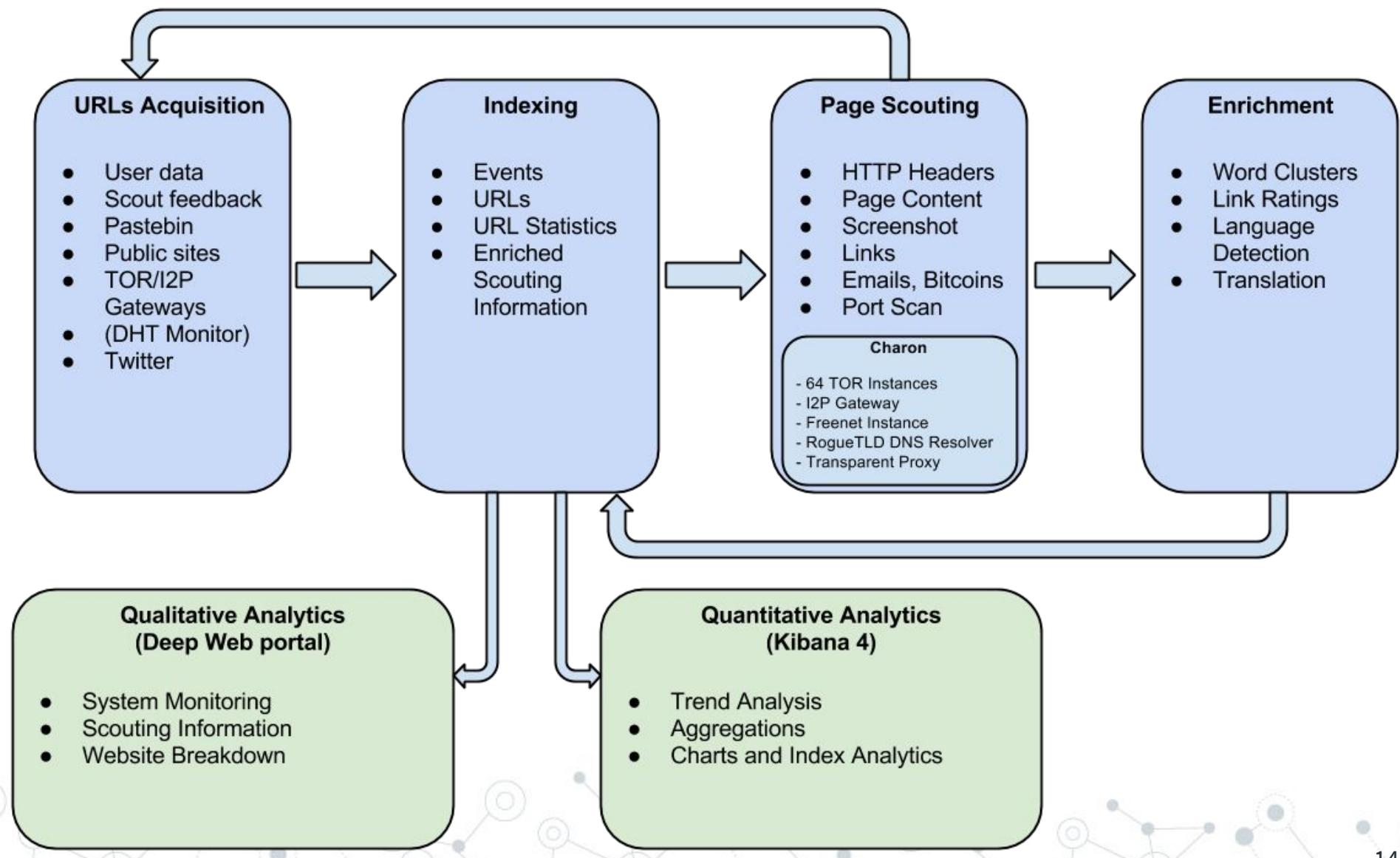
○ Illegal Trading

○ Data Analysis

○ Malware

○ Conclusions

# System Overview



# Data Sources

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User data

Pastebin  
sites

Twitter  
(1% feed)

Reddit

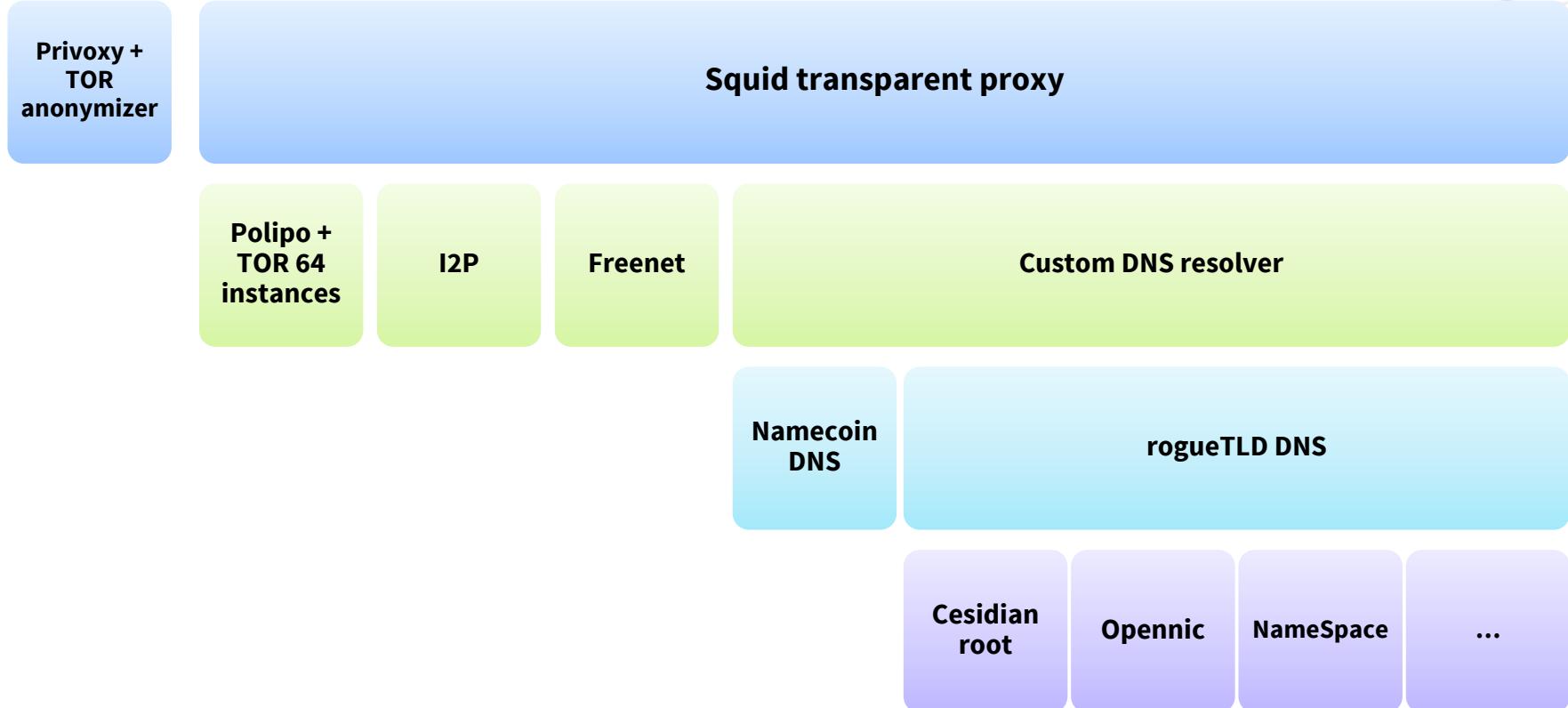
URL listing  
sites

TOR  
gateways

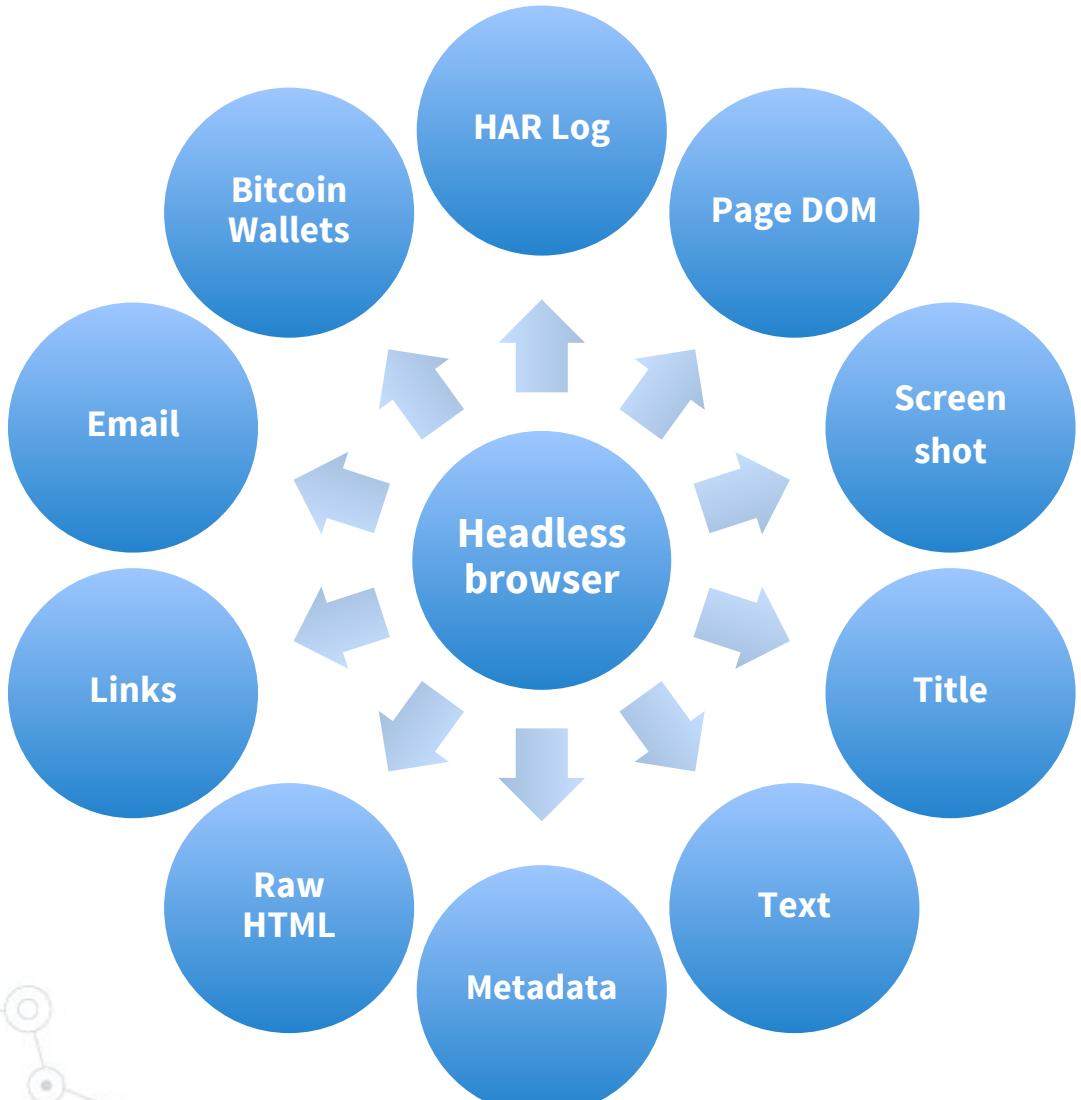
I2P host  
files

Scouting  
feedback

# Deep Web Gateway

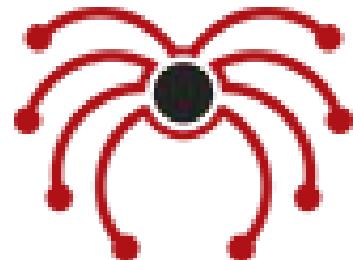


# Page Scouting

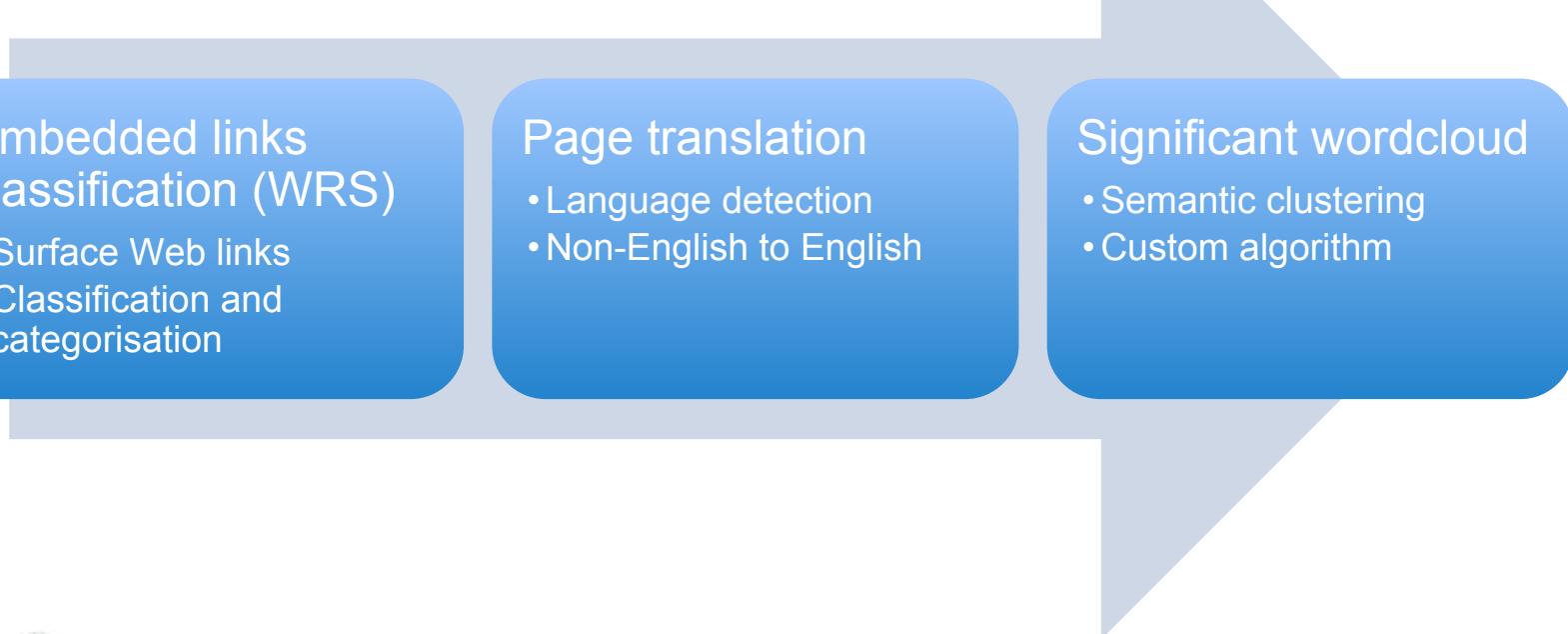


# Headless Browser

- Scrapinghub's Splash
  - QTWebkit browser
  - Dockerized
  - LUA scriptable
  - Full HTTP traces
- Crawler based on Python's Scrapy + multiprocess + Splash access
  - Headers rewrite
  - Shared queue support
  - Har log -> HTTP redirection chain
- Extract links, emails, bitcoin wallets



# Data Enrichment



Embedded links classification (WRS)

- Surface Web links
- Classification and categorisation

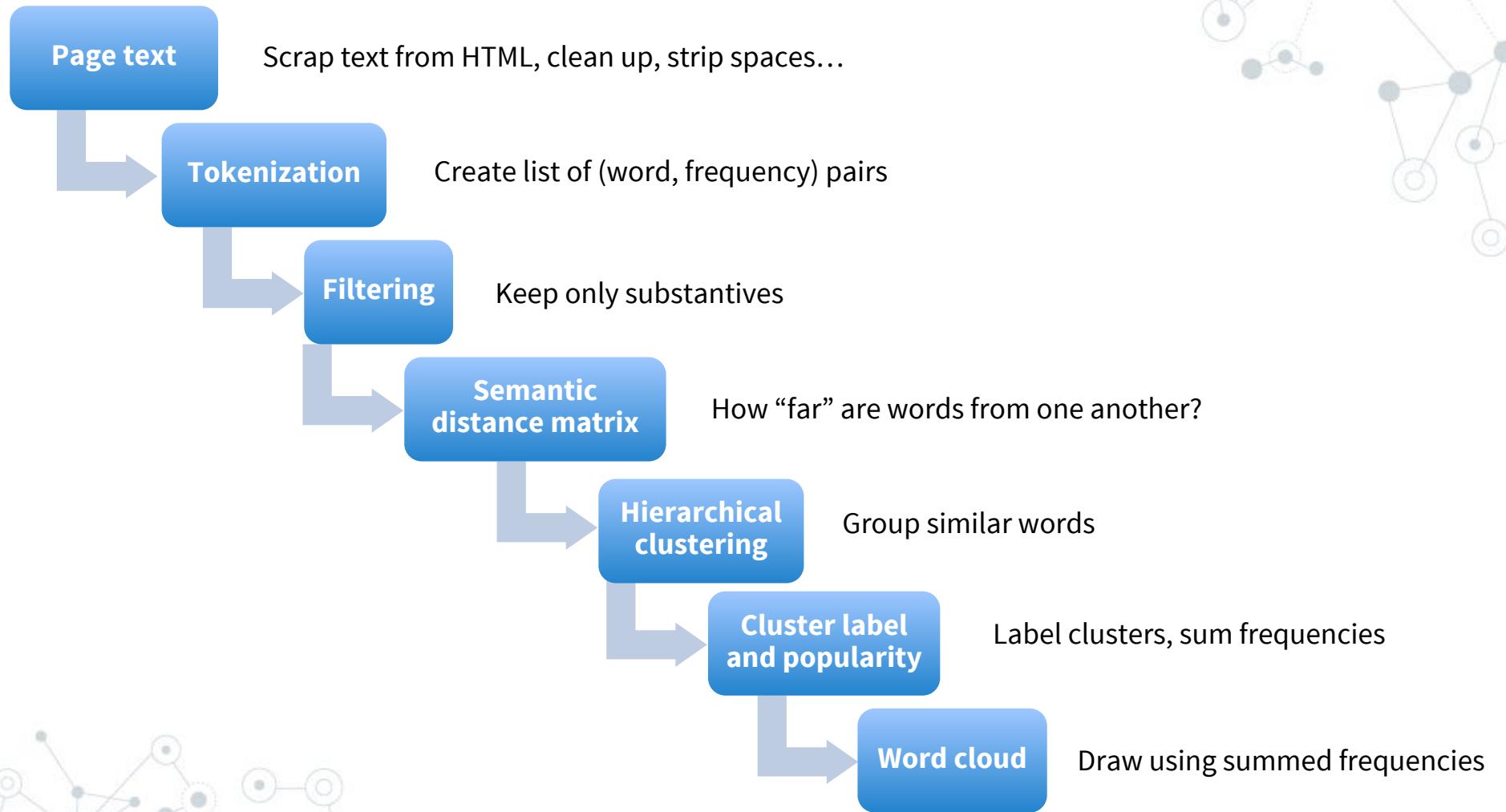
Page translation

- Language detection
- Non-English to English

Significant wordcloud

- Semantic clustering
- Custom algorithm

# Significant Wordcloud



# Example: Russian Forum

## General information

Title	Правила — Регистрация — Russian Silkroad
Page MD5	3707c80ccd99134678d6ad611bdee86f
Page size	6911

## Wordcloud (Top 20 words)



Russian Silkroad  
Анонимная автоматическая торговая площадка

Форум Правила Регистрация Вход

Вы не вошли. Пожалуйста, войдите или зарегистрируйтесь.

**Новости**

Futurama - Bender's Game. Угадай курс биткоина и получи приз от магазина!

Kushmann's Ganja - Москва - Шишки Royal Canadian Haze - один из любимых сортов Snoop Dogg и Dr. Dre. Готовые клады в центре Москвы.

Night City Light's - Москва - Амфетамин. Готовые клады.

**Внимание** - Приглашаем продавцов ПАВ с качественным товаром. Для тех, кто уже работает на других площадках, специальные условия. По вопросам открытия магазинов пишите в личку RuSilk

Russian Silkroad → Регистрация → Правила

Регистрация на Russian Silkroad

Для регистрации необходимо согласиться с правилами форума ниже.

**Правила ресурса**

Форум и его сервисы полноценно работают **без использования JavaScript**.

**Продажи производятся через систему автогаранта, требуйте от продавцов её использование. Для покупателей услуга бесплатна.**

Данный ресурс предназначен для покупки/продажи любых товаров, кроме явно запрещенных.

При помощи партнерской программы любой участник ресурса может зарабатывать на привлечении покупателей, получая в последствии процент с каждой совершенной покупки привлеченным рефералом.

**Запрещено**

1. Разжигание межнациональной вражды.
2. Вынос информации из закрытых разделов форума.
3. Политика в любом ее проявлении.
4. Попытки продажи одного ПАВ под видом другого.
5. Оставление отзывов без реальной покупки через торговую систему площадки.
6. Регистрация провокационных, а также схожих с никами администрации и других пользователей.
7. Оскорблениe других пользователей. Провоцирование ругани (трололо в любых вариантах).
8. Обсуждение действий администрации ресурса и его правил.

**Торговля разрешена всем, кроме:**

# Indexing

- Free text search
- Structured queries:
  - i.e. *url.query.parameter:xu*
- Analytics
- Data exploration

Elasticsearch

URL  
Index

URL  
Stats  
Index

Scouting  
data  
Index

Quantitative  
analysis  
*Kibana*

Qualitative  
analysis  
*Deepweb  
Portal*

# Collected Data

- Running since **11/2013 (~2 years)**
- 40.5 M Events**
- 611,000 URLs**
- 20,500 domains**

## Collected Data

Source	# events/hour	# events/day	total events	first seen	last seen
Scouter	649	649	38,578,152	2014-06-06, 16:09	2015-10-12, 10:22
TOR Gateways	21,228	21,228	779,169	2015-05-08, 13:00	2015-10-11, 18:10
I2P Registries	1,280	1,280	368,015	2015-05-08, 15:58	2015-10-11, 18:10
SPN data	48	456	341,333	2013-11-12, 18:29	2015-10-12, 10:53
Pastebin	1	27	16,685	2013-11-19, 15:32	2015-05-11, 07:48
Reddit	543	543	15,466	2015-05-07, 20:03	2015-10-12, 10:54
Twitter	1	5	70	2015-05-08, 20:00	2015-10-11, 18:10



*Demo time!*

# Roadmap

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- Deep Web Analyzer (DeWA)
  - Data collection
  - Data enrichment
  - Storage and indexing
- **Illegal Trading**
- Data Analysis
- Malware
- Conclusions

# Guns

## UK Guns and Ammo Store

Products Info Login Registration

### Guns



Product	Price	Quantity
Glock 19 - 9mm - new and unused	1.418 ₣	<input type="button" value="1"/> X <a href="#">Buy now</a>
Walther P99 - 9mm - new and unused	1.843 ₣	<input type="button" value="1"/> X <a href="#">Buy now</a>

### Ammo

Product	Price	Quantity
100 x 9mm Bullets for Glock 19	0.142 ₣	<input type="button" value="1"/> X <a href="#">Buy now</a>
100 x 9mm Bullets for Walther P99	0.142 ₣	<input type="button" value="1"/> X <a href="#">Buy now</a>

# Drugs! Drugs! Drugs!



CRYSTAL METH 7gram

฿ 1.61

BUY



NEW

COKE From PERU 93%, 7 gram,  
FINALIZE EARLY

฿ 2.37

BUY



NEW

COKE From PERU 93%, 3 gram

฿ 1.27

BUY



Crystal Meth - 2g

฿ 0.85

BUY

SHOW STIMULANTS CATEGORY



NEW

LSD Anonymous 140µg, 50 blotters

฿ 1.1

BUY



1 OZ Super Stong Mushrooms

฿ 0.59

BUY



1oz Cubensis Mushrooms

฿ 0.61

BUY

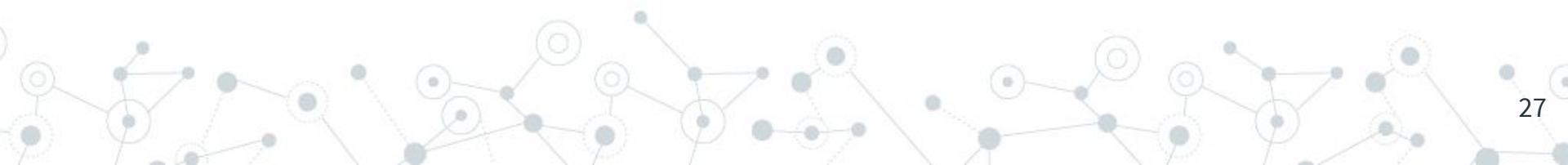


SALE

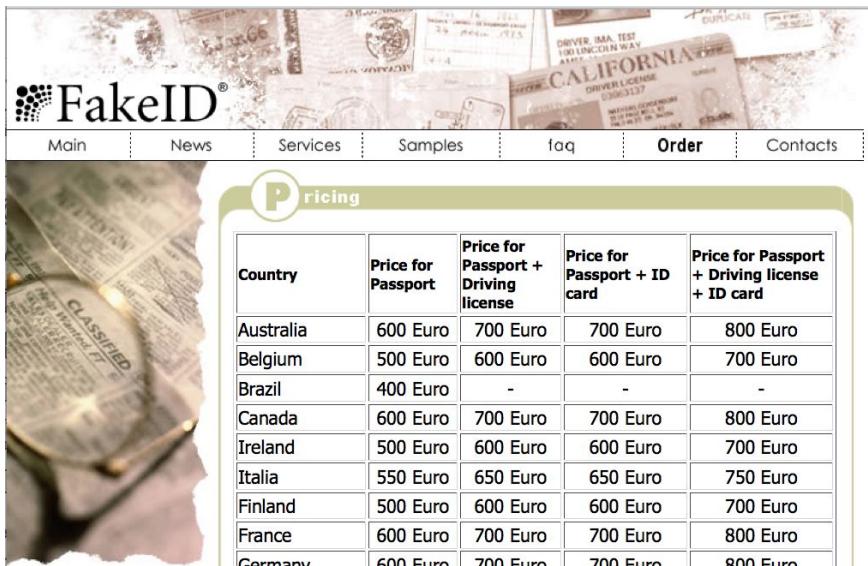
!! SPECIAL OFFER 1oz DRY PSILOCYBIN  
CUBENSIS SHROOMS!!

฿ 0.42

BUY



# Passports and Fake IDs



Country	Price for Passport	Price for Passport + Driving license	Price for Passport + ID card	Price for Passport + Driving license + ID card
Australia	600 Euro	700 Euro	700 Euro	800 Euro
Belgium	500 Euro	600 Euro	600 Euro	700 Euro
Brazil	400 Euro	-	-	-
Canada	600 Euro	700 Euro	700 Euro	800 Euro
Ireland	500 Euro	600 Euro	600 Euro	700 Euro
Italia	550 Euro	650 Euro	650 Euro	750 Euro
Finland	500 Euro	600 Euro	600 Euro	700 Euro
France	600 Euro	700 Euro	700 Euro	800 Euro
Germany	600 Euro	700 Euro	700 Euro	800 Euro
Malaysia	450 Euro	550 Euro	550 Euro	650 Euro
Netherlands	600 Euro	700 Euro	700 Euro	800 Euro
Norway	650 Euro	750 Euro	750 Euro	850 Euro
Poland	500 Euro	600 Euro	600 Euro	700 Euro
Portugal	500 Euro	600 Euro	600 Euro	700 Euro
Spain	550 Euro	650 Euro	650 Euro	800 Euro
Switzerland	650 Euro	750 Euro	750 Euro	850 Euro
Sweden	550 Euro	650 Euro	650 Euro	750 Euro
United Kingdom	650 Euro	750 Euro	-	-
USA	700 Euro	800 Euro	800 Euro	900 Euro

For some countries we have an unique option to register passports in official government department databases. To get more details please contact with our manager: [documents.service@safe-mail.net](mailto:documents.service@safe-mail.net)

Additional services	Price for one unit
Documents duplicating	extra 100 Euro
Visa/stamps affixion	extra 25-110 Euro

Prices on specific services like producing passports and documents for countries not listed above, duplicates, stamps, diplomatic passports and others should be discussed with our operator and may be variable.



# Counterfeit Money

## 20 CNY BILLS



5000 CNY ( 250 bills )	1.35 ₩	<a href="#">BUY NOW</a>
7500 CNY ( 375 bills )	1.8 ₩	<a href="#">BUY NOW</a>
10000 CNY ( 500 bills )	2.26 ₩	<a href="#">BUY NOW</a>

15000 CNY ( 750 bills )	3.14 ₩	<a href="#">BUY NOW</a>
20000 CNY ( 1000 bills )	3.93 ₩	<a href="#">BUY NOW</a>
50000 CNY ( 2500 bills )	8.64 ₩	<a href="#">BUY NOW</a>

## 50 CNY BILLS



# Credit Cards

○ Higher balance = higher price

Please enter the amount you wish to purchase below and fill in the form.  
(BTC value updates periodically via BTPAY)

 <p><b>USA VISA CREDIT CARD BALANCE \$2,000</b> Accepted at ATM worldwide \$500 daily withdraw limit <b>\$90 (0.4001 BTC)</b> amount <input type="text" value="0"/> </p>	 <p><b>USA VISA CREDIT CARD BALANCE \$5,000</b> Accepted at ATM worldwide \$1,000 daily withdraw limit <b>\$170 (0.7557 BTC)</b> amount <input type="text" value="0"/> </p>	 <p><b>EU VISA CREDIT CARD BALANCE €5,000</b> Accepted at ATM worldwide €1,000 daily withdraw limit <b>\$210 (0.9335 BTC)</b> amount <input type="text" value="0"/> </p>
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# Paypal & Ebay Stolen Accounts

We get new lists every day!

80%+ working guarantee, we will replace if more than 20% dont work!

Product	Price	Quantity
100 PayPal accounts	100 USD = 0.434 ₩	1 X <a href="#">Buy now</a>
100 Ebay accounts	100 USD = 0.434 ₩	1 X <a href="#">Buy now</a>
100 CCs with CVV2	150 USD = 0.652 ₩	1 X <a href="#">Buy now</a>

# Doxing

[Post Entry](#) | [Old](#) [Archive](#) [Fail](#) |

Bill and Hillary Clinton  
[REDACTED]

William J. Clinton  
[REDACTED]

Sarah Palin  
DOB: 02/11/1964  
Phone Number's: [REDACTED]  
Address: [REDACTED]

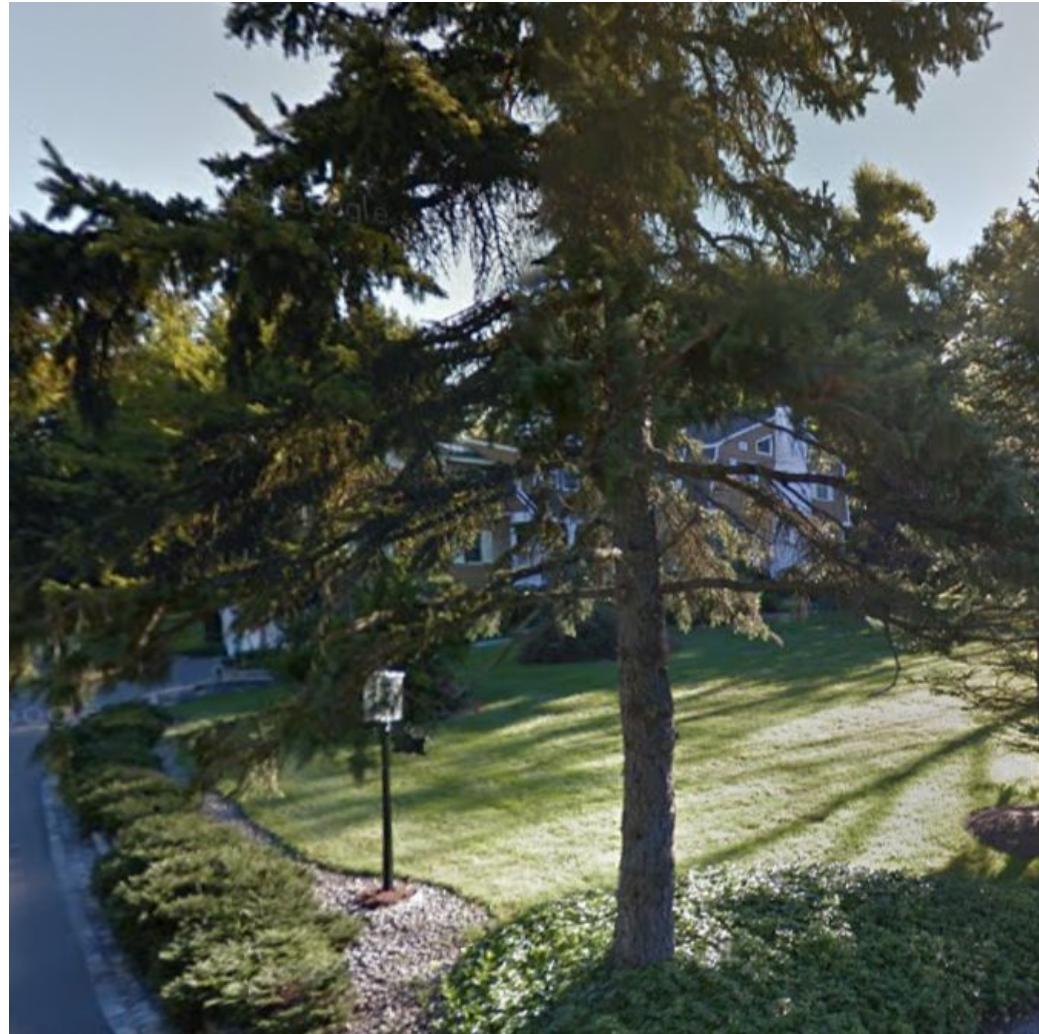
Previous Addresses:  
[REDACTED]  
[REDACTED]

Hillary Clinton  
DOB: 10/26/1947  
Address:  
Previous Addresses:  
1600 Pennsylvania Ave Washington, DC 20599  
PO Box 2741 Little Rock, AR 72203

1600 Pennsylvania Ave NW # 214 Washington, DC 20006  
1600 Pennsylvania Ave NW Washington, DC 20500

Joseph R Biden Jr  
DOB: 11/20/1942  
Phone Number: [REDACTED]  
Address: [REDACTED]

Previous Addresses:  
1. [REDACTED]  
2. [REDACTED]



# Assassins

ASSASSIN's COMMUNITY

KILLERS LIST   ABOUT   INFO   CONTACT   Logout

## SELECT VICTIM's LOCATION:

Europe • North America • Asia • South America • Australia • Africa

### EUROPE

5000 € / person

HIRE



**Blacklord**

Confirmed Victims: (100+)

Age	16+
Gender	ANY
Extended Suffering	+
Photo/Video	+
CONTINENT	EUROPE, ASIA, AFRICA

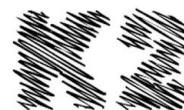
**POLITICIANS**

(TOP-10)

(TOP-100)

7500 € / person

HIRE



K2@mail2tor.com

**K2**

Confirmed Victims: (70+)

Age	20+
Gender	ANY
Extended Suffering	+
Photo/Video	+
CONTINENT	EUROPE, ASIA, AFRICA

**POLITICIANS**

(TOP-10)

(TOP-100)

3000 € / person

HIRE



**HITMAN**

Confirmed Victims: (70+)

Age	ANY
Gender	ANY
Extended Suffering	+
Photo/Video	+
CONTINENT	EUROPE, ASIA

**POLITICIANS**

(TOP-10)

(TOP-100)

10000 € / person

HIRE



**Rodger D.**

Confirmed Victims: (20+)

Age	16+
Gender	ANY
Extended Suffering	+
Photo/Video	+
CONTINENT	EUROPE, ASIA

**POLITICIANS**

(TOP-10)

(TOP-100)

# Crowdfunding evil

The concept is simple:

1. Someone adds a name to the list with background information.
2. People add money to the dead pool to entice would be assassins.
3. Assassins and speculators predict when the person will die, but the content of the prediction stays hidden until after the fact.
4. Correct predictions get the pool.

## The List

Name	Country	Status	Pool Size
<a href="#"><u>Barack Hussein Obama II</u></a>	United States of America	Alive	\$0
<a href="#"><u>Ben Shalom Bernanke</u></a>	United States of America	Alive	\$0
<a href="#"><u>Hugh Grant (business executive)</u></a>	United States of America	Alive	\$0
<a href="#"><u>Justin Drew Bieber</u></a>	United States of America	Alive	\$0

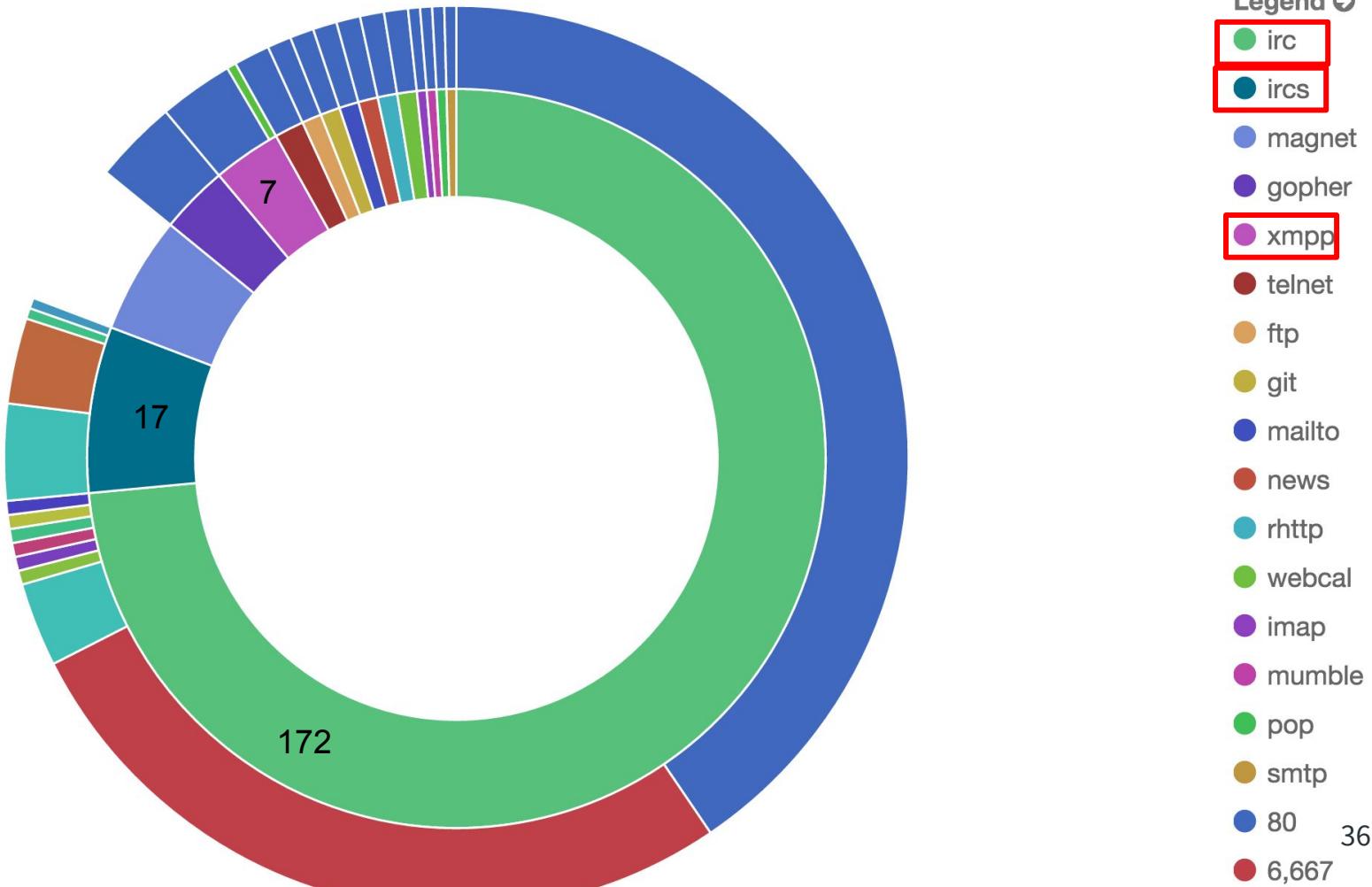
# Roadmap

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- Introduction
- Deep Web Analyzer (DeWA)
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- **Data Analysis**
- Malware
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# Protocols (no HTTP/S)

By publicly sourced URLs



# Port scan results

IRC	IRCS	SSH
49	31	855



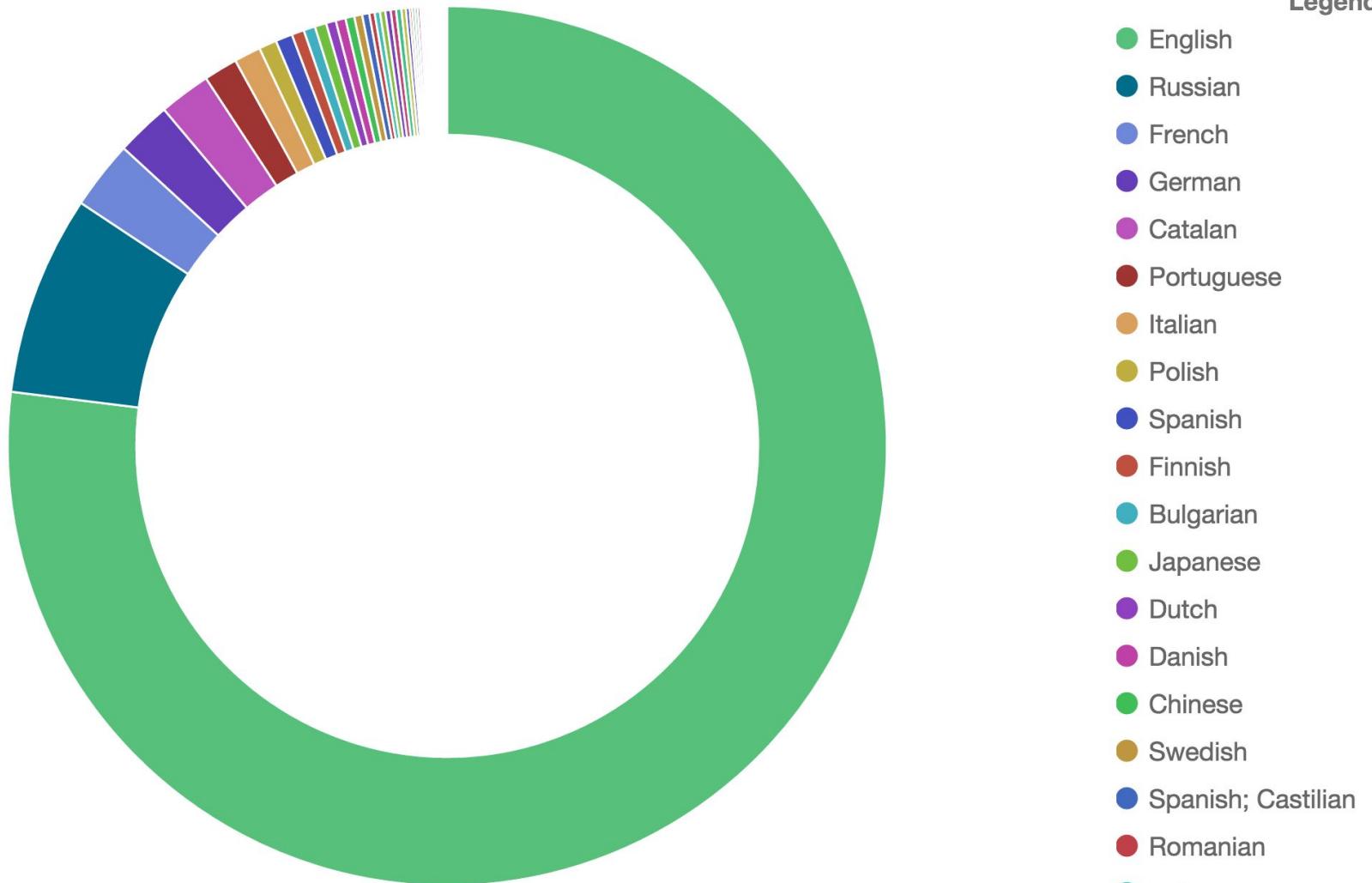
- \* - We are based on anarchistic control so nobody haz power certainly not power over the servers or
- \* - domains who ever says that this or that person haz power here, are trolls and mostly agents of factions
- \* - that haz butthurt about the concept or praxis where the CyberGuerrilla Anonymous Nexus stands for.

#freeanons 15 [+Cnt] This channel is created to support arrested Anons and act with **solidarity in Anons**. No MoneyFags, No Famefags, No PowerManiacs, No LeaderFags! Another Anons was arrested in France: <http://www.ladepeche.fr/article/2015/10/10/2194982-enquete-de-la-dgsi-sur-du-piratage-informatique.html>

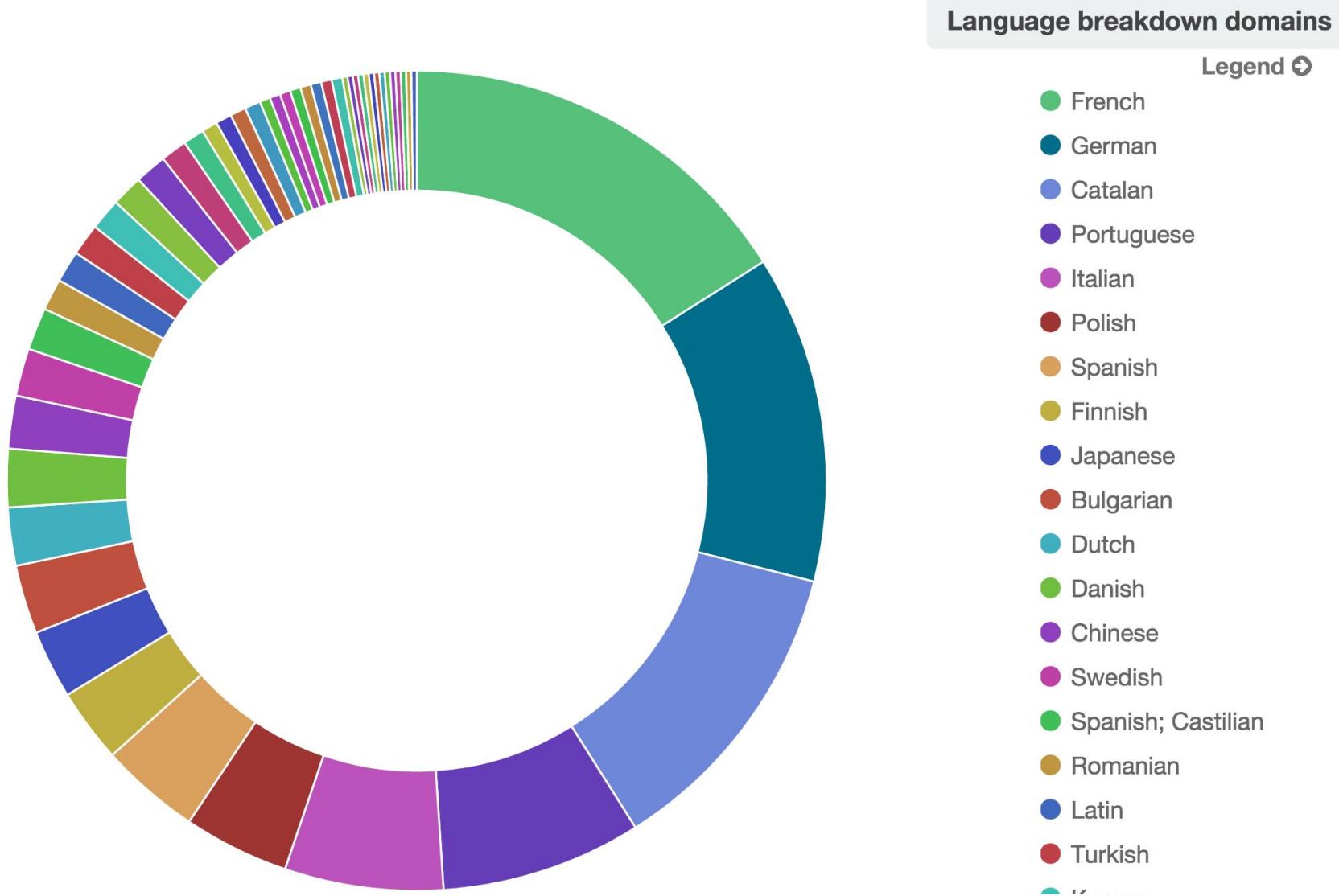
# Languages per domain

Language breakdown domains

Legend ⓘ



# Languages per domain (2)



# Chinese forum: trading rules

论坛首页 < 公告版 < 暗网中文公告

LOCKED 🔒 | 搜索 | 7 篇帖子 • 分页：1 / 1

**King**  
Site Admin  
帖子: 144  
注册: 周五 10月 24, 2014 5:39 pm

## 交易区规则

由 King » 周五 10月 24, 2014 6:38 pm

### 一、一些简单的规则，待完善

1. 严禁发布反人类的物品，如尸体、排泄物等。
2. 所有交易一律使用比特币 (BTC)，按照当天的汇率换算。
3. 所有交易请不要使用真实的邮箱，请勿留下除了邮箱以外的任何联系方式，如QQ、手机等。
4. 所有的实体物品交易请不要当面进行，违者后果自负。
5. 所有的虚拟物品交易请谨防骗子，如发现骗子，请及时汇报。

### 二、一些简单的建议，待完善

1. 推荐使用匿名邮箱，如 mail2tor.com 等，请勿使用真实的互联网邮箱。
2. 推荐使用比特币交易，可在各个国内外网站购买，购买后请及时存到自己的比特币钱包，请不要使用国内的网站进行交易。
3. 千万不要在论坛泄漏自己的真实信息，包括但不限于QQ、手机、身份等。

管理员邮箱 : ngyoung@mail2tor.com

暗网中文论坛

# Pages Embedding Suspicious Links

**Mr. TwoFaces**  
Newbie  
  
Posts: 17 Karma: +1/-0  


**7 Cracked Paid Keyloggers**  
« on: November 25, 2014, 05:03:09 pm »

[h]Collection of Cracked Paid Keyloggers[h]

*I'd like to present to you my list of cracked paid Keyloggers.  
Please PM me if any download link isn't working, I will provide a new one for you.*

*Format:*

*Name (Thread Design)  
Download Link*

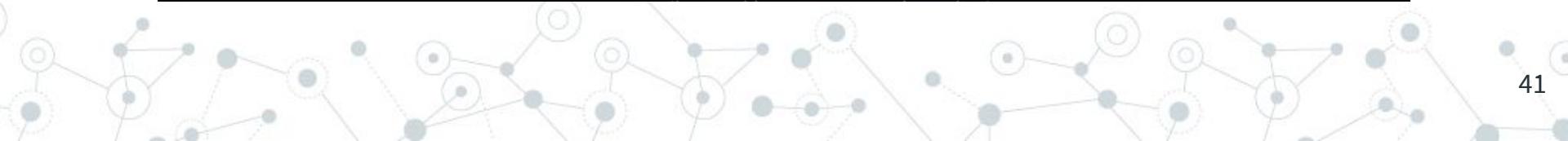
Predator Pain v14 (<http://www.predatorpain.com/bronxfiles/iI9bX2b.png>)  
[https://mega.co.nz/#!yQADFJzC!cf\\_NyRyGY\\_jgJBYf0XZi27o\\_AM9K5IMNSF6TAK85feE](https://mega.co.nz/#!yQADFJzC!cf_NyRyGY_jgJBYf0XZi27o_AM9K5IMNSF6TAK85feE)

Autologger 2.0 (<http://i1.minus.com/ibfxq2rWiKVyjr.jpg>)  
<http://adfoc.us/22069339665199>

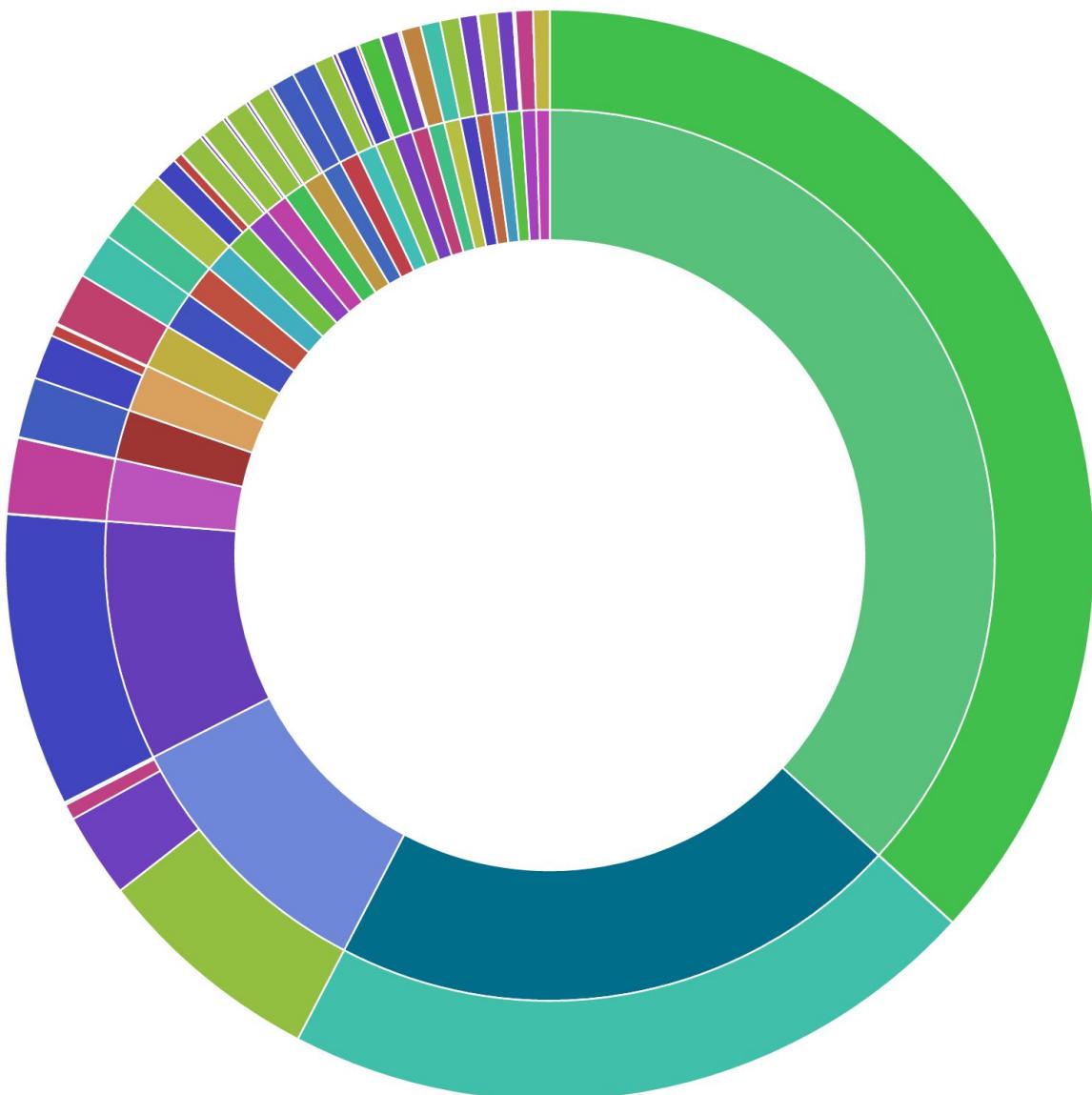
Hades Logger (<https://i.imgur.com/ice0pyQ.jpg>)  
<http://adf.ly/rvnpl>

Galaxy Logger & Stealer (<https://i.imgur.com/9DQRD0J.jpg>)  
<https://mega.co.nz/#!2ZoQQDha!GP8hd4dmL0RtT8z7RNlaltHR3Gt9r4fkK8o2mZuQ4CE>

Tasty Logger (<https://puu.sh/4FatG.png>)  
<https://mega.co.nz/#!HRQFQTJY!GgoeZ0rNxO...rdpoUviC8>  
Password: <http://DeceptiveEngineering.info>



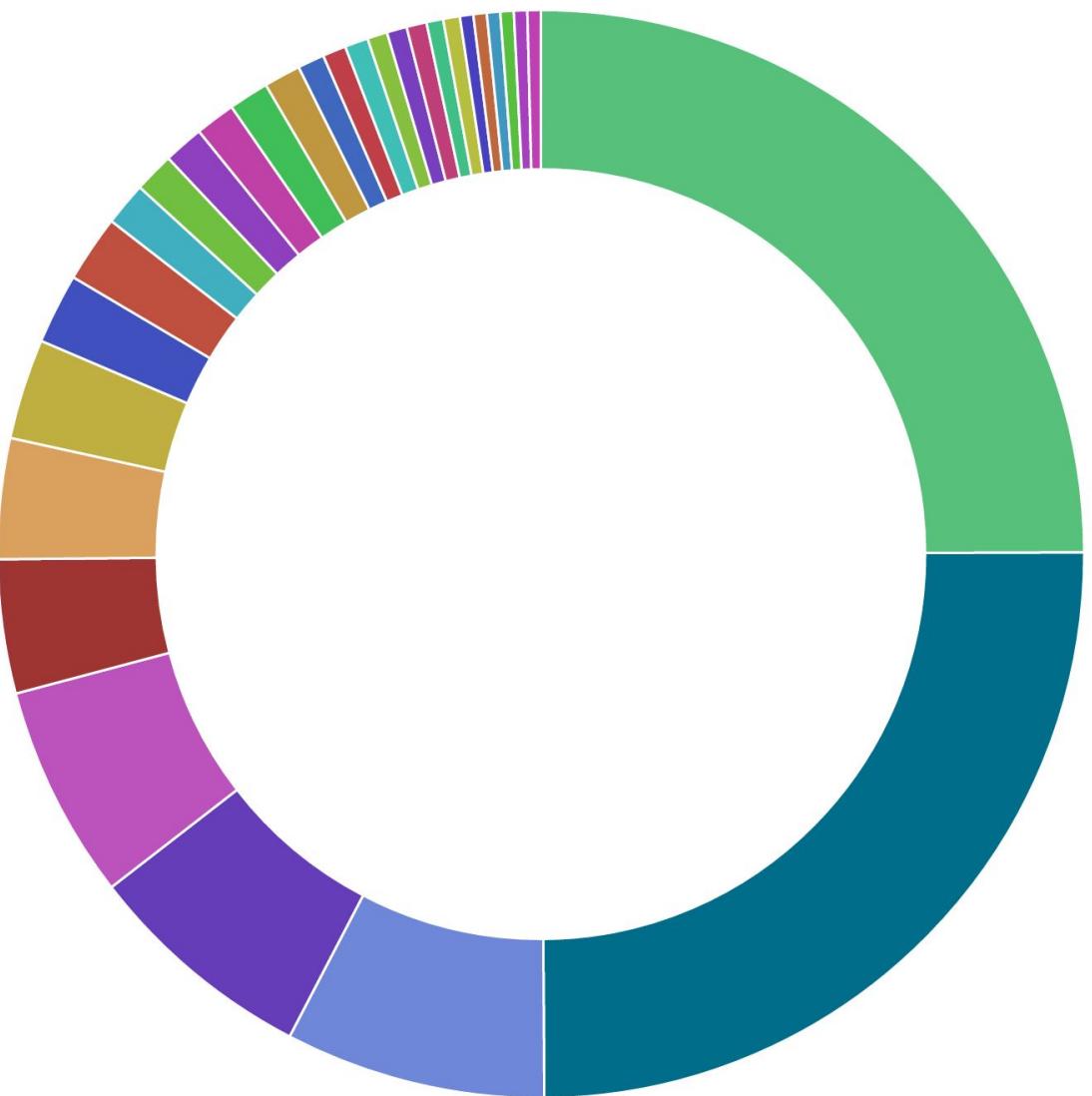
# Email Identification



Legend ⓘ

- zenow@riseup.net
- odim@safe-mail.com
- \*\*\*@onionmail.in
- kay.sievers@vrfy.org
- TriPhOrce@riseup.net
- pozabankowe@gmail....
- zzz@mail.i2p
- 48596@qq.com
- Jokerv@safe-mail.net
- doublec@epwvnnhpjl6...
- admin@soylentnews.org
- kytv@mail.i2p
- username@i2pmail.org
- username@mail2tor.com
- username@torbox3ui...
- username@ruggedinb...
- spw@wolomin.sr.gov.pl
- konrad.wojciechowski...
- username@safe-mail.net
- killyourtv@i2pmail.org
- philipkldick@riseup.net
- t0xicp0ison@yahoo.com
- mail@rospravosudie.c...
- bankofamerica@mail2t...
- format at www.floridas...
- myjob@ruggedinbox.c...
- themightybuzzard@so...

bankofamerica@

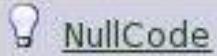


### Legend ➔

- bankofamerica@mail2t...
  - odim@safe-mail.com
  - Jokerv@safe-mail.net
  - churry9@mail2tor.com
  - NullCode@Mail2Tor.com
  - awaydepetropolis@mail2tor.com
  - psykotyko@mail2tor.com...
  - axlink@sigaintevyh2rz...
  - zerolinez@mail2tor.com
  - gus133@mail2tor.com
  - gatuno@mail2tor.com
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  - cloner@mail2tor.com
  - codered@mail2tor.com
  - diploma@mail2tor.com
  - InfoCCBrasil@mail2tor...
  - iloading@mail2tor.com
  - creditorenovado2012...
  - voidspace@Mail2Tor.com...
  - ebobv@mail2tor.com

# Exilio forum 1/2

Pizzas gratis [NullCode - 0x00] [mensagem #4246]



NullCode

Senior Member

Mensagens: 433

Registado: fevereiro 2015

Karma: 120

Eis algumas pizzas que foram APROVADAS hoje (01/03/2015)...

---

BANDEIRA: Mastercard

TIPO DO CARTAO: Platinum / Itau Unibanco

NUMERO DO CARTAO: 541555018763XXXX

DATA DE VALIDADE: 10/16

CODIGO DE SEGURANCA: 953

NOME NO CARTAO: Humberto Alcantara

DATA DE NASCIMENTO: 26/10/1964

TELEFONE:

CPF: 440.645.528-06

STATUS: Debitado

BANDEIRA: Mastercard

TIPO DO CARTAO: Gold / Itau Unibanco

# Exilio forum 2/2

Res: Pizzas gratis [NullCode - 0x00] [mensagem #4536 é uma resposta a mensagem nº 4532]  
Ter, 03 março 2015 20:06 ▾

bankofamerica Senior Member  
**Mensagens:** 238  
**Registado:** novembro 2014  
**Karma:** -58

**“ batman escreveu em Ter, 03 março 2015 19:47**

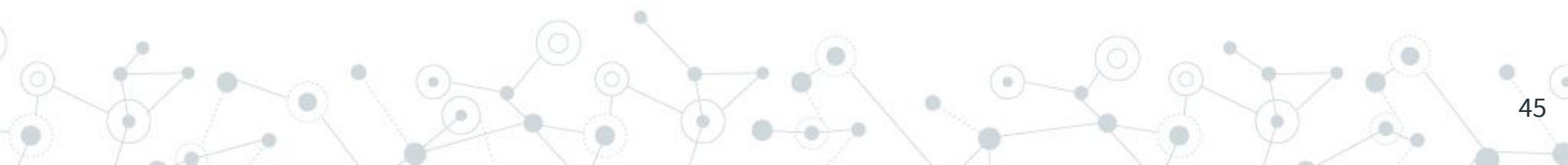
**N**ullCoder, eu clico no +1 (vaaarias vezes) mas não acontece nada. clico clico clico clico mas nada Man!! TOTAL!! Queria te dar +9999 mas não ta indo.  
Se ainda tiver um pedaço pra mim... tive que sair rapidinho da net e só voltei agora.  
Outra coisa, alguns sites que tentei pedem o endereço. Como eu chuto qualquer endereço, acho que é por isso que alguns não vão!

Lá em cima do seu navegador possui um ícone S com um bloqueio, habilite-o temporariamente que você consegue.  
É só pra liberar script, eu particularmente deixo o bloqueio habilitado o tempo todo.. mas temporariamente só pra dar uma "curtida" pro nosso colega que nos ajuda tanto, eu acho que compensa..

Torchat: 64rpss4mb24vsfz6  
[bankofamerica@mail2tor.com](mailto:bankofamerica@mail2tor.com)

[Informar mensagem ao moderador](#)

[perfil](#) [mp](#) [Responder](#) [disse](#)



# Automated Bitcoin Identification

---

**1200+** bitcoin wallets found in our data (not counting the obfuscated ones)

# Bitcoin Tumblers



## WELCOME TO TUMBLY

Tumbly is the bitcoin tumbler with the lowest fees in the whole darknet. Many happy customers and fast transactions make us to a number one choice for all your bitcoin washing needs.

### Features



#### Clean your Bitcoins

Whether you buy drugs, weapons or some cheesy pizza our coins can't be tracked back to you!



#### Low fees

Tumbling Bitcoins is no magic, we think the usual fees are way too high for that. Our fees: **0% to 1%**!

# Bitcoin Multiplier 1/2

More Than 5500 BTC Paid ! The Original and Verified That Works Multiply 100x Your Coins - HackMastersTrust -

<http://tfsux6hiihj7qvxb.onion/> - HackMastersTrust@Safe-Mail.net



## How to multiply your Bitcoins hundredfold in a day?

No matter how secure and innovative Bitcoins are, they are just some bytes on a digital storage medium and they can be copied as well as any digital information. We've thoroughly studied the Bitcoin client from within and have found an almost imperceptible but very significant flaw (associated with the commission), using it we have committed a Bitcoin transaction in which the recipient has received more Bitcoins than the sender has sent. Unfortunately, the difference is not so great (about 1%) and if you make only one transaction by a small amount your capital will not increase much, but if you make transactions permanently and by a large amount, you can get rich very quickly.

We've discovered this flaw recently and have managed to win a lot, but every day we multiply our money hundredfold times and want to do it more. We all understand that such a freebie can not continue for a lot of time and this flaw will be found and corrected in the near future, but until that happens, we want to win as much as possible. That is why we have launched this website, where you can make an investment and we will multiply it twenty times. Half of this money we will give to you, it means that your investment will be returned to you hundredfold in the next 24 hours.

All you have to do is to transfer some Bitcoins to address listed below (we do not accept investments below 0.01 Bitcoins) and your investment will be multiplied hundredfold and will be transferred to your wallet within 24 hours.

Pay 0.01 BTC today, get 1 BTC tomorrow

Custom Bitcoin Deposit Addresses

1XBTcyUWtaPDwXMfzBn6q7VHDAFJ47MCB

Send some Bitcoins and multiply them hundredfold in just one day!  
**(Minimum To Deposit > 0.01 BTC)**

Pay 0.01 BTC today, get 1.00 BTC in 24 hours

Pay 0.1 BTC today, get 10.00 BTC in 24 hours

Maximum Amount To Deposit: 10 Bitcoin

# Bitcoin Multiplier 2/2

## Some History

Date	Deposited	Returned	Return address	Transaction
08/10/15	<b>0.01</b> BTC	<b>1</b> BTC	157H3quvaBovcKkaRcwozNxu72ZRTBoEb7	a42c37ad189f07cd5405e433fb1ebb6c88a4e05f876103b9218affb36e3d6c42
08/10/15	<b>0.045</b> BTC	<b>4.5</b> BTC	1J7Dkq8yXaAcWBF7PpzcGrbpsah1mkaUDK	4d0d5c800039e68034e7bdb622478b5eadc778bbdca69ccab7ae9fb601eadc0
07/10/15	<b>0.2</b> BTC	<b>20</b> BTC	3NKkQeZDrhgzQKP99pRU71j4HcwXTmw5VS	7e2de327913b8b3c644afbab0d4c2ea68e7c1492718a5ed0c293dd5a71b4167e
06/10/15	<b>0.06</b> BTC	<b>6</b> BTC	13EhGy3yuTC6Es9g5a6Fnzo9fLuPzkFvFg	6261d13329f19f0f44d1fb96a0ad3e9ef95d5b86f389937107499d59438a9d33
06/10/15	<b>0.15</b> BTC	<b>15</b> BTC	13wdrfBxUShsMASGxGwZ68bH8XC7XrCqzC	8c86c0e8107286eb1b696c5a5d198cdd10aeb3cf343b4c5f107675e076f23a93
05/10/15	<b>0.1</b> BTC	<b>10</b> BTC	1sCHh9zH7g1yx7S4h4qj9uqxCDLNm7Lke	fc766fc6c180ae162a5cc845d8a4f156ffe988b667fdce2d42bd67b61fdd2af2
04/10/15	<b>0.07</b> BTC	<b>7</b> BTC	1LsSAPNm9ZkPv2CSpx6wgUFRVxEJC1rQmR	366cfda3ad9bd2b8fda43baca2d6799252dee492b268a8a6370fe154c6de4d00
04/10/15	<b>0.01</b> BTC	<b>1</b> BTC	12a5RQoSs2u71MeSBu68cbV62aLccpr3i6	767c8c51c63b00520e930596dfe0a64411c39876595b202349156972707dc9fc
04/10/15	<b>0.10</b> BTC	<b>8</b> BTC	1DgDiL4weX45XbyH3rT9HckbgDCcSgoTMz	aa23f7d56ac53b4f585670225fd70681e7de0685eb1d03c2e8610fa7a1861c14
04/10/15	<b>0.6</b> BTC	<b>60</b> BTC	1EmYzDnLB3QCTebzuvUuj4d32j235LGktC	db157cb915b8ea1dd8cc5ca5b5be22a796c146a35039ca805907e5840ec6ab59
03/10/15	<b>0.25</b> BTC	<b>25</b> BTC	1BJWYQ7dM2ecPWbB5eodY9ikBY52JGf122	4637cfbd20d862cd5156991d327cc18ccbf4a7aded7034c3a883506735a20909
29/09/15	<b>0.035</b> BTC	<b>3.5</b> BTC	1AT66aPVe5u418S26BYFXRmxCn1XJB2PWg	4da13ece015a49c8765cd27c3a4009bea73df5a11e3f5416a0196c6157679025
28/09/15	<b>0.01</b> BTC	<b>1</b> BTC	1H5oYxmRyAj2b13tuZkCLy3cscfyKx7Aq7	f2af8b3bc57dae2c8c7853b5b8564c65e5fc38e7caf7197881b457fa843e8b6
27/09/15	<b>0.1</b> BTC	<b>10</b> BTC	1sCHh9zH7g1yx7S4h4qj9uqxCDLNm7Lke	f3a3c7ebe2073b737db93674bf6e96938f5e8afa56a172bde47a264d1f686c82
26/09/15	<b>0.13</b> BTC	<b>13</b> BTC	132mFvVPPKie5eN4rDkk7WnKcoeB22p989	6c8cb758d1500b3d7b5021d737dc1001efd9bdb8e5662199021efb326d261a67
25/09/15	<b>0.1</b> BTC	<b>10</b> BTC	1EhWAtxucFKSeCsZT3Q9fcPntaELfhacnA	4c34250be9ccb04480a435ebf1057653c4afdf9e87abfe18fce7c65ade029105
24/09/15	<b>0.011</b> BTC	<b>1.1</b> BTC	1jmYXQ7ssaaE2axprw5QfQwuP37X58Jgfv	f6f392f2f34a00cb9b99cb3b1f6231e4bc941871dc6c13c62a5f2f83ec0787ee

# Roadmap

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- Introduction
- Deep Web Analyzer (DeWA)
  - Data collection
  - Data enrichment
  - Storage and indexing
- Illegal Trading
- Data Analysis
- **Malware**
- Conclusions

# Malware: Its adoption in the Deep Web

---

- Modern malware is network-dependent
  - @ infection-time: Exploit kits
  - @ propagation-time: 2nd stage malware
  - @ operational-time: C&C servers
- Goals :
  - Make botnets resilient against LEA operations, e.g. takedowns
  - Conceal payment pages
  - Untraceable money transfers
- Additional readings:
  - Brown in Defcon 18*
  - Hunting Down Malware on the Deep Web (infosec institute)*

# SkyNet

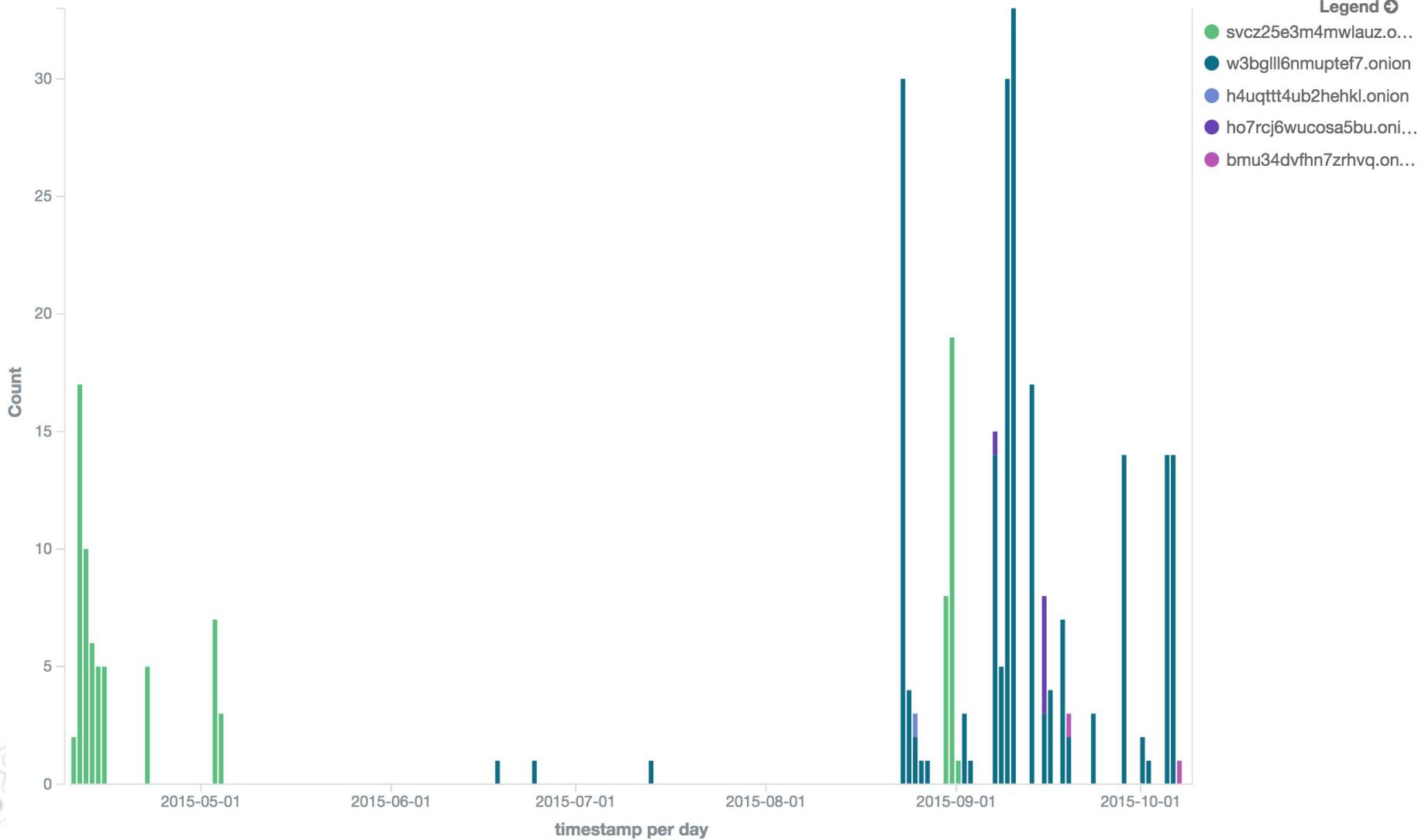
- Malware with DDoS, bitcoin mining and banking capabilities (©G-Data/Rapid7)
  - ZeuS bot
  - Bitcoin mining tool (CGMiner)
  - GPU libraries for hash cracking
- TOR client per Windows
- Use /gate.php as landing page to store the harvested credentials
- Path monitoring ....

●	/gate.php	367	2013-12-09	2014-04-25
---	-----------	-----	------------	------------

## Domain breakdown

Schema	Hostname	Port	# Rep	First seen	Last seen
-	egzh3ktnywjwabxb.onion	80	213	2013-12-09...	2014-01-17...
http	akrnfve5eifqygwr.onion	80	154	2014-02-23...	2014-04-25...

# SkyNet: Dynamic TOR-based C&Cs



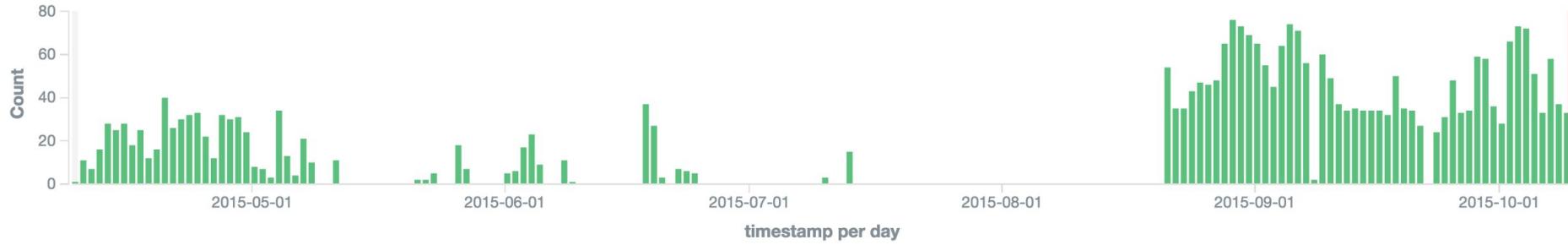
# Dyre Banking Trojan

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- ① BHO that MiTMs online-banking pages at browser-level
- ① Back-connects from victim to attacker (kind-of reverse-shell approach)
- ① DGA generation of C&C domains on Clearnet
- ① Use I2P as backup option (:80/443)
  - ① nhgryzrn2p2gejk57wveao5kxa7b3nhtc4saoonjpsy65mapycaua.b32.i2p  
(already known to SecureWorks on 17 December 2014)
  - ① oguws7cr5xvl5jlrhyxjktcdi2d7k5cqeulu4mdl75xxfwmhgnsq.b32.i2p
  - ① 4nhgryzrn2p2gejk57wveao5kxa7b3nhtc4saoonjpsy65mapycaua.b32.i2p

# Dyre's Infection Evolution

April 9th 2015, 16:34:42.033 - October 9th 2015, 16:34:42.033 — [by day](#)

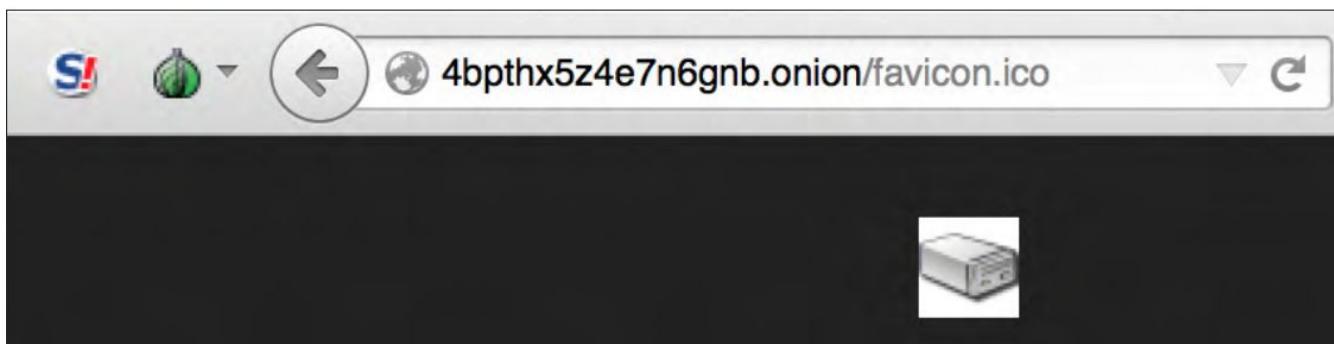


Time ▾	url.@raw
▶ October 9th 2015, 16:23:10.455	<a href="http://oguws7cr5xv15j1rhyxjktcdi2d7k5cqeulu4md175xxfwmhgnsq.b32.i2p:80/">http://oguws7cr5xv15j1rhyxjktcdi2d7k5cqeulu4md175xxfwmhgnsq.b32.i2p:80/</a>
▶ October 9th 2015, 15:41:56.468	<a href="http://oguws7cr5xv15j1rhyxjktcdi2d7k5cqeulu4md175xxfwmhgnsq.b32.i2p:80/">http://oguws7cr5xv15j1rhyxjktcdi2d7k5cqeulu4md175xxfwmhgnsq.b32.i2p:80/</a>
▶ October 9th 2015, 14:53:07.007	<a href="http://oguws7cr5xv15j1rhyxjktcdi2d7k5cqeulu4md175xxfwmhgnsq.b32.i2p:80/">http://oguws7cr5xv15j1rhyxjktcdi2d7k5cqeulu4md175xxfwmhgnsq.b32.i2p:80/</a>
▶ October 9th 2015, 13:59:50.718	<a href="http://oguws7cr5xv15j1rhyxjktcdi2d7k5cqeulu4md175xxfwmhgnsq.b32.i2p:80/">http://oguws7cr5xv15j1rhyxjktcdi2d7k5cqeulu4md175xxfwmhgnsq.b32.i2p:80/</a>
▶ October 9th 2015, 13:18:03.211	<a href="http://oguws7cr5xv15j1rhyxjktcdi2d7k5cqeulu4md175xxfwmhgnsq.b32.i2p:80/">http://oguws7cr5xv15j1rhyxjktcdi2d7k5cqeulu4md175xxfwmhgnsq.b32.i2p:80/</a>
▶ October 9th 2015, 12:52:27.011	<a href="http://nhgryzrn2p2gejk57wveao5kxa7b3nhtc4saoonjpsy65mapycaua.b32.i2p:80/">http://nhgryzrn2p2gejk57wveao5kxa7b3nhtc4saoonjpsy65mapycaua.b32.i2p:80/</a>
▶ October 9th 2015, 12:23:43.690	<a href="http://oguws7cr5xv15j1rhyxjktcdi2d7k5cqeulu4md175xxfwmhgnsq.b32.i2p:80/">http://oguws7cr5xv15j1rhyxjktcdi2d7k5cqeulu4md175xxfwmhgnsq.b32.i2p:80/</a>
▶ October 9th 2015, 12:16:03.639	<a href="http://nhgryzrn2p2gejk57wveao5kxa7b3nhtc4saoonjpsy65mapycaua.b32.i2p:80/">http://nhgryzrn2p2gejk57wveao5kxa7b3nhtc4saoonjpsy65mapycaua.b32.i2p:80/</a>



# Vawtrack Banking Trojan

- Spreads via phishing emails
- C&C servers (IPs) are retrieved by downloading the '*favicon.ico*' icon-file from websites hosted on the TOR network
- IPs are steganographically hidden



# Vawtrack Banking Trojan (cont.)

- Runs ‘openresty/1.7.2.1’ as web-server
- Return code on ‘favicon.ico’ is 403 Forbidden

x-cache-lookup	miss from charon:3128
server	openresty/1.7.2.1
last-modified	wed, 18 feb 2015 14:45:29 gmt

- `ws='openresty\1.7.2.1' && ∃('favicon.ico') && retcode=403` returns a list of 23:

<http://3jjx4qbhr6tw2juk.onion:80/>

<http://4bpthx5z4e7n6gnb.onion:80/>

<http://6hts7b7onuh653ha.onion:80/>

<http://76gwp6wc7toxarog.onion:80/>

<http://a3bjairfwlwopnst.onion:80/>

<http://gxi4unnw363epeow.onion:80/>

<http://ipx5qhsbgddvqlb.onion:80/>

<http://iuykahksh3bbtkj2.onion:80/>

<http://marf7pvfg2iacawr.onion:80/>

<http://max6gtszig6i4rjt.onion:80/>

<http://onqtcjzw6b6bfeto.onion:80/>

<http://otsaa35gxbcwvrqs.onion:80/>

<http://oxrml5ihgfibce2r.onion:80/>

<http://pt3ayo2bn7inhq6o.onion:80/>

<http://q6knv6pe25cxjv2s.onion:80/>

<http://sws5qec3n7v7bxei.onion:80/>

<http://t3uqe5gge23wtjhq.onion:80/>

<http://ucxapuqzxanjivqw.onion:80/>

<http://w3kjcq6svuucwb6o.onion:80/>

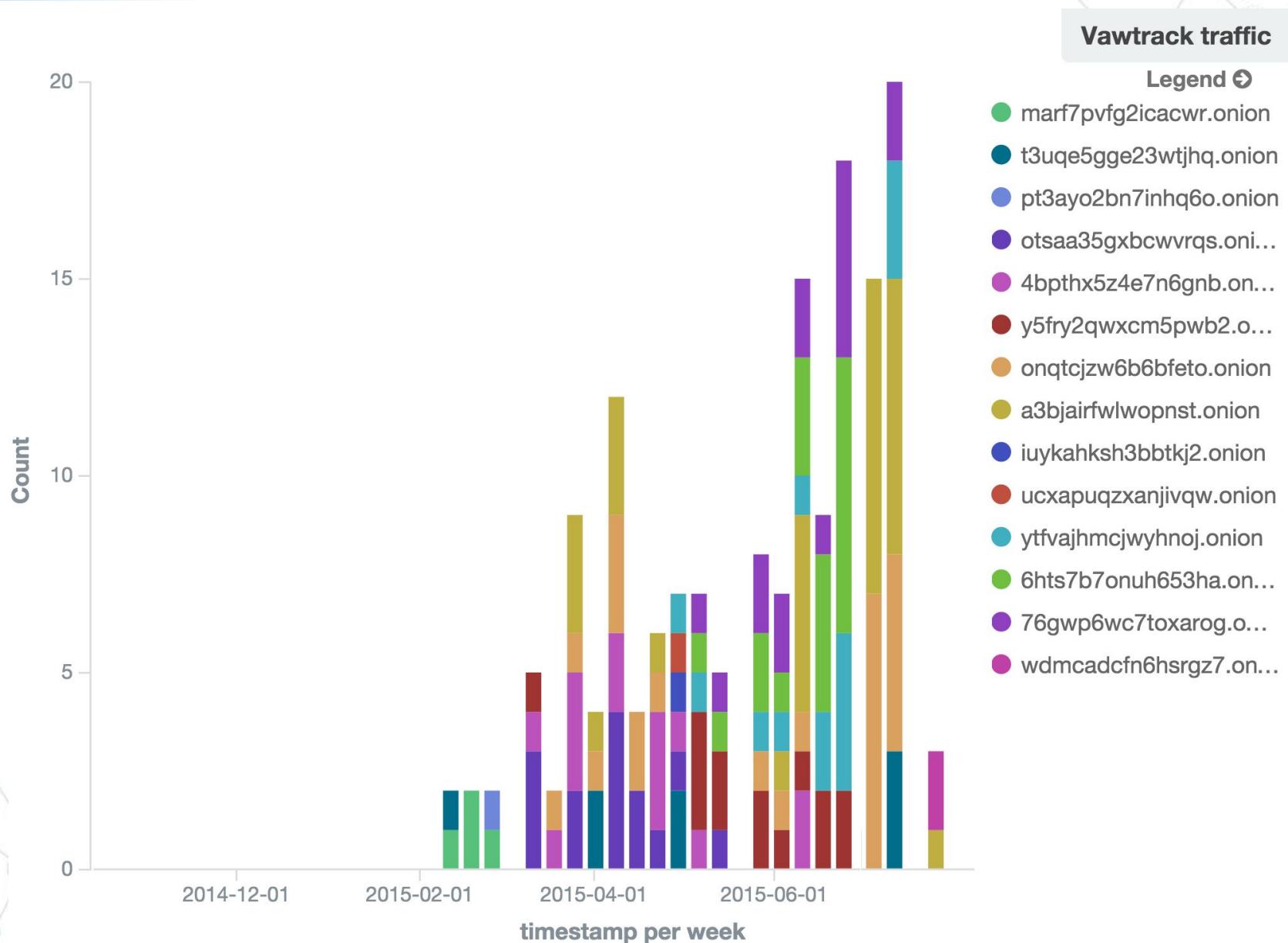
<http://w3qsdpr5gb3ltln3.onion:80/>

<http://wdmcadcfn6hsrgz7.onion:80/>

<http://y5fry2qwxcm5pwb2.onion:80/>

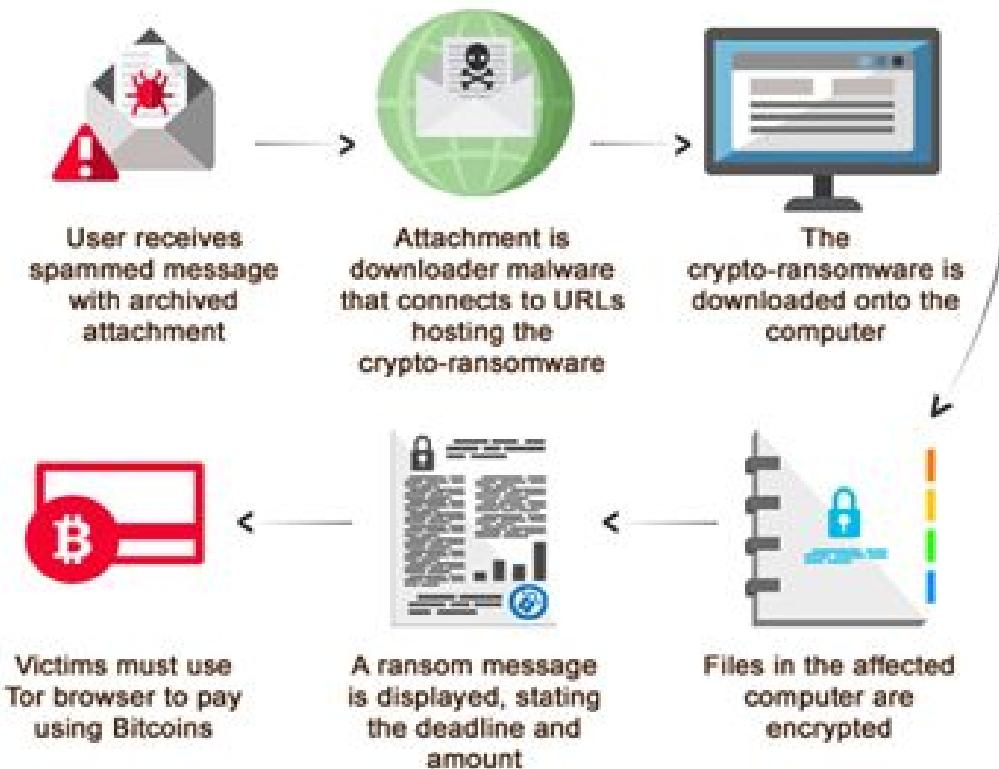
<http://ytfvajhmcjwyhnoj.onion:80/>

# Vawtrack Banking Trojan (cont.)



# Ransomware in the Deep Web

- Ransomware seem to love the Deep Web
- It provides a hidden and robust “framework” for cashouts and illicit money transfers



# TorrentLocker

- A variant of cryptolocker
- Payment page hosted in the Deep Web
- Cashout via Bitcoins



## Buy decryption and get all your files back



Buy decryption for **640 AUD** before **2015-10-13 19:16:06**

**OR** buy it later with the price of **1280 AUD**

Time left before price increase: **120:00:00**

Current price: **1.941408 BTC (around 640 AUD)**

Paid until now: **0 BTC (around 0 AUD)**

Remaining amount: **1.941408 BTC (around 640 AUD)**

### Buy Decryption with bitcoin

#### What is Bitcoin?

Bitcoin is the virtual currency used in Internet.

#### 1 Buy Bitcoins

You can buy Bitcoins from Exchangers **OR** Marketplaces.

##### 1 Buying from Exchangers

Use one of the following exchange services to buy Bitcoins with cash over the counter via bank-teller at one of the partner banks.

Use **1Gt1Erw9SMYTugRoqu4HQ58ikZuYxttTzK** in "Your Bitcoin wallet address" field when placing your order.

- |  |   |
|--|---|
| <a href="http://www.coinloft.com.au">www.coinloft.com.au</a> | - Buy Bitcoins via with bank deposit. Supports all four major Australian banks. |
| <a href="http://buyabitcoin.com.au">buyabitcoin.com.au</a>   | - Buy Bitcoins via with bank deposit.   |
| <a href="http://www.igot.com">www.igot.com</a>               | - Buy Bitcoins via with bank deposit. Available across 100+ Banks.              |
| <a href="http://www.hardblock.net">www.hardblock.net</a>     | - Buy Bitcoins with Westpac and Commbank.                                       |
| <a href="http://forepost.net">forepost.net</a>               | - Buy Bitcoins with Westpac, Commbank and NAB.                                  |

##### 2 Buying from Marketplaces

Sign up on one of the following websites. Enter your name and address details then get your account verified with GreenID®. You will need to provide some basic forms of identification such as a drivers license number, passport number, or electoral roll details.

[btcmarkets.net](http://btcmarkets.net) - You can use direct bank transfer from any Australian bank account. Deposits are automatically processed at 6am following a business day and any deposits made over the weekend do not clear until Tuesday morning. Also, you can deposit directly at any Westpac branch in Australia. Branch deposits will clear same day, within an hour.

[www.coinjar.com](http://www.coinjar.com) - You can use BPAY from any Australian bank account. Only make BPAY transfers from a transaction account with available funds. BPAY transfers typically reach Coinjar within 1-3 business days and will be added to your Cash Account. For best results, be sure to make your BPAY transfer within regular business hours, Melbourne local time.

Also see the whole list of places where to buy bitcoins: [howtobuybitcoins.info](http://howtobuybitcoins.info)

#### 2 Send Bitcoins to us

If you buy Bitcoins from one of the exchangers please use the following amount and address when placing your order.  
If you buy Bitcoins from one of the marketplaces please withdraw the exact amount to the address specified below.

Amount: **1.941408 Bitcoin (around 640 AUD)**  
Bitcoin Address: **1Gt1Erw9SMYTugRoqu4HQ58ikZuYxttTzK**

It is possible to split the amount into several payments.

#### 3 Inform us

Click on "Verify Payment" button. If you have send the Bitcoin payment you should receive decryption software download link. Please download the software and run it on the encrypted PC. All your encrypted files will get decrypted automatically.

**Verify Payment**

# TorrentLocker (cont.)

- Malware generates univocal IDs

wzaxcyqrooduouk5n.onion/axdf84v.php?user\_code=qz1n2i&user\_pass=9019

wzaxcyqrooduouk5n.onion/o2xd3x.php?user\_code=811ak0&user\_pass=6775

- Tracking on specific query string's parameters

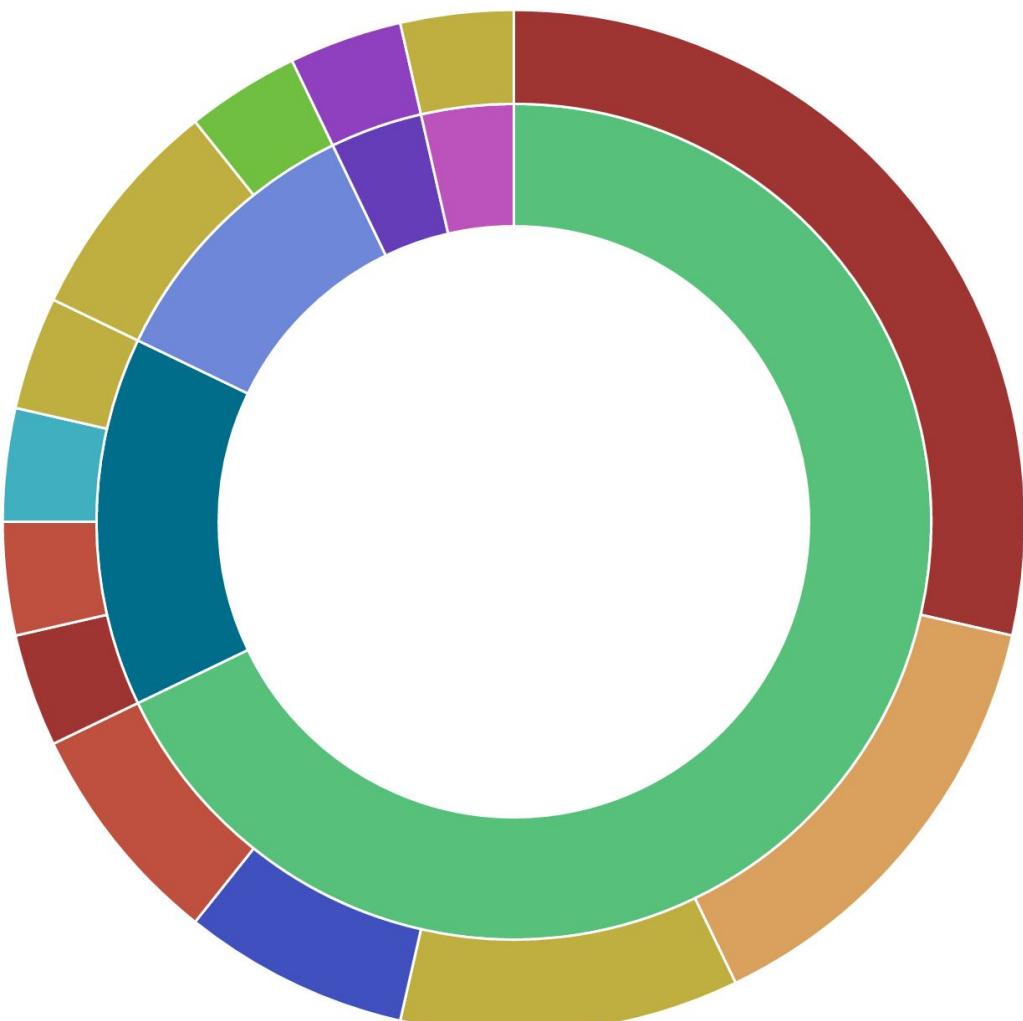
path='/[a-z0-9]{6}.php?user\_code=[a-z0-9]{6}&user\_pass=[0-9]{4}'

The screenshot shows a web page for CryptoLocker. At the top, there is a navigation bar with links: '购买解密软件' (Buy Decryption Software), '免费解密一个文档' (Free decrypt one document), '常见问题' (FAQ), and '支持页面' (Support page). Below the navigation bar, the main content area has a title: '购买解密软件以便还原所有加密文档' (Buy decryption software to restore all encrypted documents). A yellow warning box contains the following information:  
- A yellow diamond icon with a flame symbol.  
- Text: '2015-10-13 19:29:15前购买解密软件只需 11900 TWD'  
- Text: '或之后购买价格为 23800 TWD'  
- Text: '价格上涨前剩余时间: 19:59:59'  
- Text: '加密文档数量: 24661'  
Below this box, there is a note: '现行价格: 1.561875 比特币 (约 11900 TWD)' and '已支付: 0 比特币 (约 0 TWD)'.  
At the bottom of the page, there is a section titled '使用 bitcoin 来购买解密软件' (Buy decryption software using bitcoin) with a sub-section '比特币到底是什么?' (What is Bitcoin?). It also includes a link: '您可在网站上购买比特币以便在台湾兑换货币' (You can buy Bitcoin on the website to exchange for Taiwan dollars).

# Breakdown by victims and country

TorrentLocker languages

Legend ⓘ

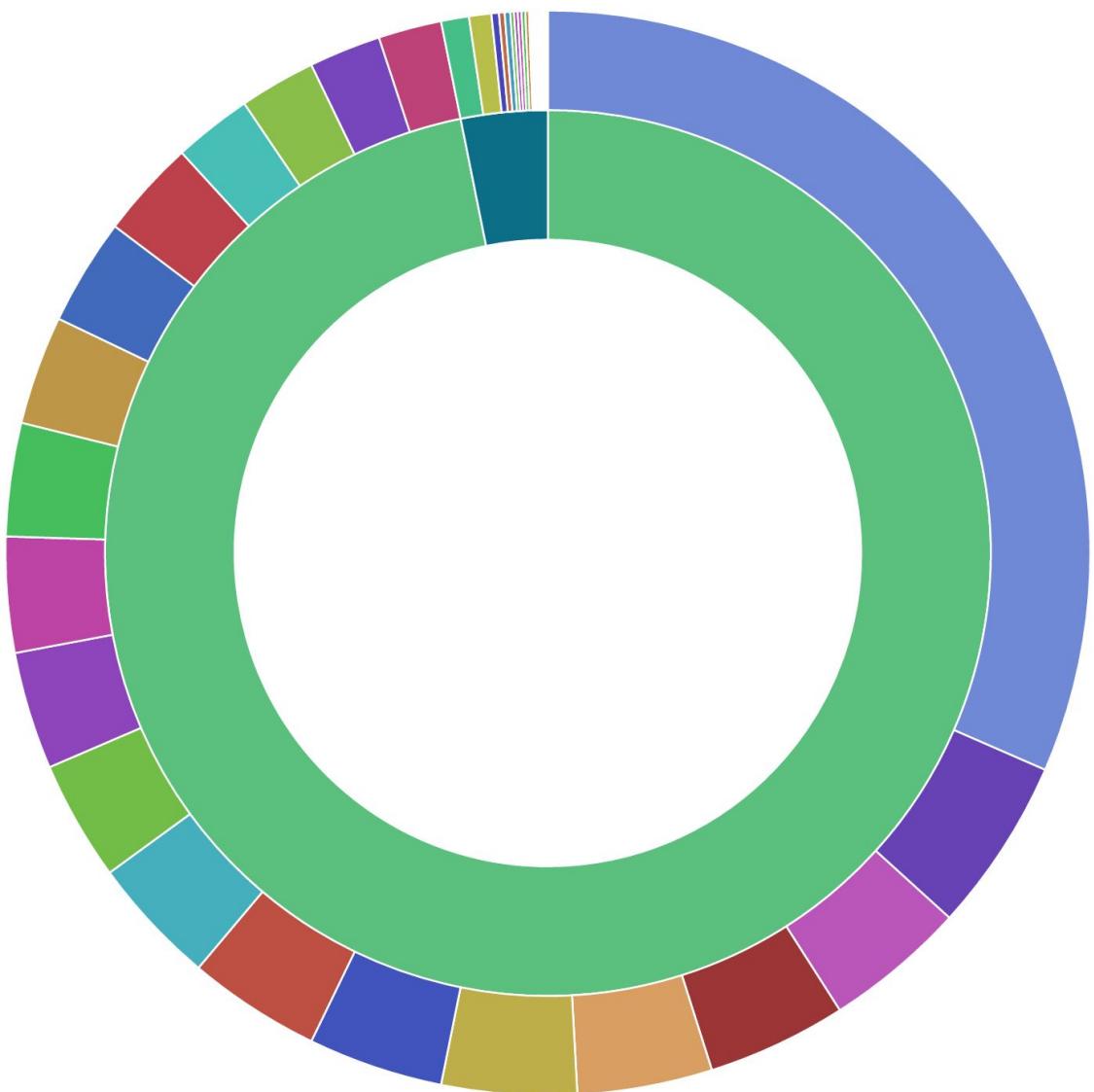


# NionSpy

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- ◎ Steals confidential information like keystrokes, passwords and private documents
  - ◎ Records video and audio, suitable for espionage programs
- 
- ◎ Detection Feature:
  - ◎ Popularity in the number of values associated to parameters (in the query string)

# Automated Detection via ML



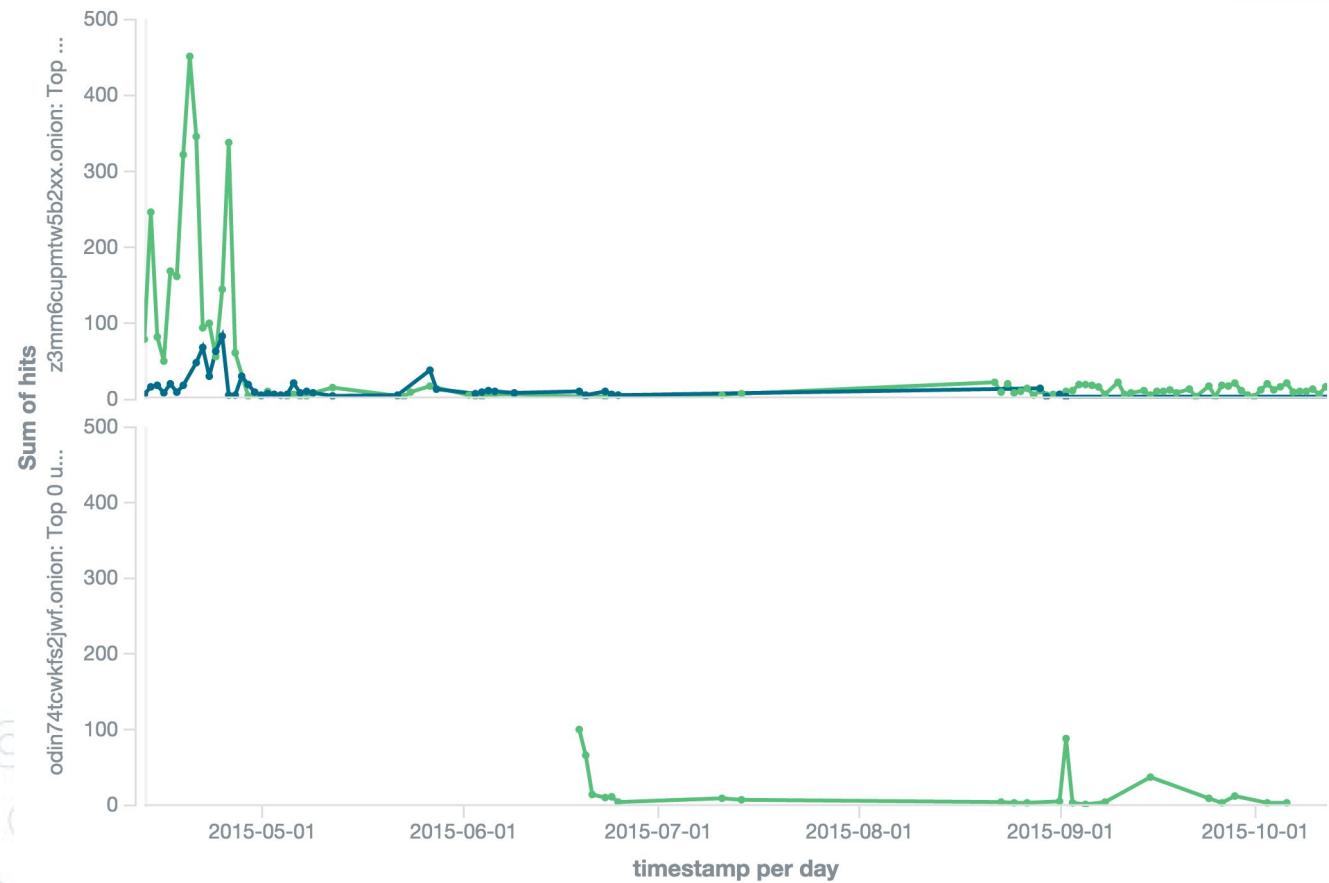
## Legend →

# NionSpy: GET's query string analysis

- ① xu experienced a quick surge in popularity: 1700+ values
- ① si.php?xu=%e0%ee%a8%e5%f2%e9%e5%e4%f2 [...]
- ① URL-encoded binary blob representing the leaked data
- ① si.php?xd={"f155":"MACHINE\_IP", "f4336": "MACHINE\_NAME", "f7035":"5.9.1.1", "f1121": "windows", "f2015":"1"}
- ① Reports a new infection

# NionSpy: New victims and leakages

- Blue (xd): # of new victims / day
- Green (xu): amount of leaked information (bytes)



# Conclusions

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- ◎ We built a system for data collection and analysis in the Deep Web.
- ◎ We used it to quickly identify cybercriminal activities, such as trading of illegal goods, underground marketplaces, scams and malware infrastructures.
- ◎ We run it operationally and automatically to detect new threats.

# Thank you! Questions?



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